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THE PSYCHOLOGICAL CLINIC

A Journal of Orthogenics
For the Normal Development
of Every Child

Psychology Hygiene Education

Editor:
LIGHTNER WITMER, Ph.D.,
University of Pennsylvania

VOLUME IX.
1915-1916

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THE
Psychological Clinic

For the normal development
of every child

PSYCHOLOGY HYGIENE EDUCATION

Editor: LIGHTNER WITMER, Ph. D., University of Pennsylvania

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OPEN WINDOW CLASSES.

BY D. C. BLISS.

Superintendent of Schools, Montclair, N. J.

Unfortunately for the development of educational science there is a strong tendency in the profession to govern practice by opinion, with little real scrutiny of facts. This attitude of mind is responsible for the establishment of many open window classes in various school systems in the country. To many who advocate the classes it seems a self-evident proposition that pupils working under such conditions will show increased physical gain and a more efficient mentality than those who sit in the customary well-warmed room. These enthusiasts argue somewhat as follows:

Fresh air is absolutely essential to good health; the evidence of its efficacy as a healing agent in tuberculosis is clearly established; sickly, anemic children in open air rooms have gained in health and at the same time have made progress in their studies equal to that of pupils in the regulation class room; the inference is that normally healthy children if placed under the same conditions will show a still greater improvement, due to their better physical status. In accordance with this natural assumption many classes have been established and extravagant claims have been made for remarkable results both physical and mental.

If the classes accomplish the good results alleged, it seems perfectly logical to assume that such a conclusion is capable of demonstration. With the hope of establishing some of the facts relative to such classes the following records were collected.

It should be noted that the writer began the tests with the expectation that the results would fully corroborate the commonly accepted opinion. The natural result of this preconceived notion would be a tendency to interpret the collected statistics to the advantage of the open window class rather than against it. However, an attempt was made to reach a conclusion based upon the facts as they appeared, rather than upon the initial conviction. Whatever bias existed was in favor of, rather than against, current opinion.

It was clear at the outset that any valid conclusions from a study of such classes must be based upon a comparison with other groups and not upon a study of the open window children alone. The school conditions in Montclair were very favorable to such a study. It was possible to select groups for the open window and control classes from approximately the same type of children; an efficient medical department provided expert opinion on the physical condition of the children; and all mental tests were given by one person.

A second, a third, and a fifth grade class were selected for the test, no two of these classes being in the same building. Each was checked by a control group of equal number in the same school building. The children in the open window classes were placed there at the request of their parents, and in all probability whatever advantage accrued from this method of selection was rather in favor of the open window class, for only those parents who were believers in fresh air and so were inclined to supplement the school arrangement with favorable home precautions, were likely to make this choice. So far as could be determined superficially the classes were physically equal. The open window classes had one possible advantage over the control groups in a lunch provided at the expense of the parents; the second and third grades being given some warm food, such as a cup of hot soup or cocoa, about the middle of the forenoon session, while the fifth grade ate a light cold lunch which they brought from home. The rooms were kept at a temperature of about 50° F. This was secured by raising all windows at the bottom and lowering them at the top so that the opening was about half the size of the window. These openings were covered with cheesecloth screens to protect the children from severe draughts, and the pupils were provided by the home with extra clothing and a shawl or rug in which to wrap the lower limbs.

A definite attempt was made to check all pupils in both open window and control classes on three separate lines:

1. Degree of nutrition, measured in terms of weight gained and weight lost.

2. General health, as indicated by the number of children absent because of illness and the total number of days lost thereby.

3. Mental condition, indicated by the comparative amount of fatigue in the two classes. This was determined by a comparison of tests, one given half an hour after the opening of school in the morning, and a similar one given to the same class late in the session. The weight tests cover the period from November to March. The rest of the year open windows are the rule in all class rooms, a fact which makes any comparison of weights useless. The great loss of time

involved in any other method made it necessary to weigh the children with their clothing on, but previous experiments in weighing open air children both with and without clothing had shown that the increase in weight was fairly constant under either condition. The medical department of the school felt that while under the circumstances the weight figures were not scientifically exact, they were correct as far as relative values were concerned.

The following charts show the total number of pounds gained and the total number of pounds lost by the classes for each weight period.

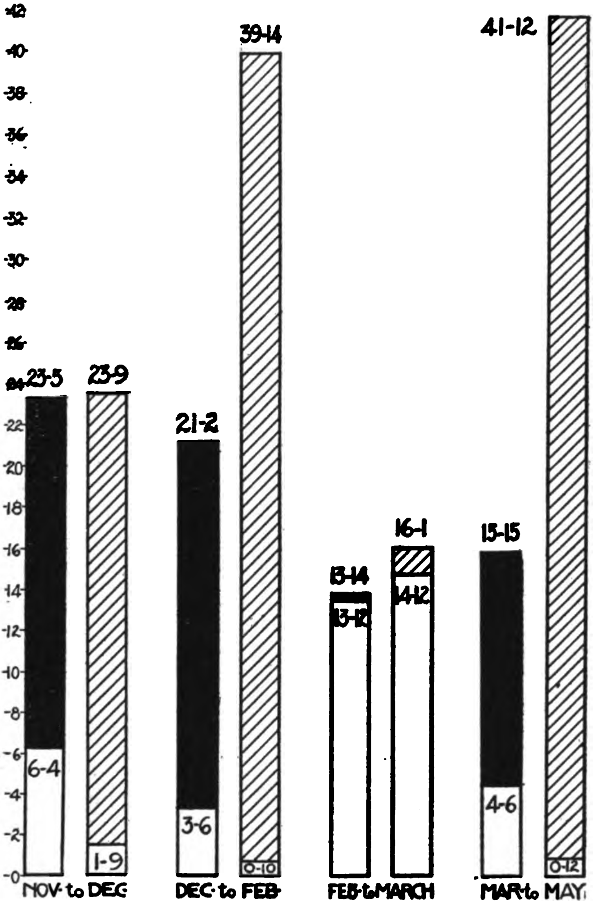

CHART I.

The first column in each time group represents the open window class, the second the control class. The entire height of the columns shows weight gain while the white portion records weight loss. Thus, from November to December the pupils of the open window class gained 23 lbs. 5 oz. and lost 6 lbs. 4 oz., making a net gain of 17 lbs. 1 oz., which is shown by the blackening of the upper portion of the columns. During the same period the pupils of the control class gained 23 lbs. 9 oz. and lost 1 lb. 9 oz., leaving a net gain of 22 lbs. In every time group the control class shows a greater net gain than the open window class.

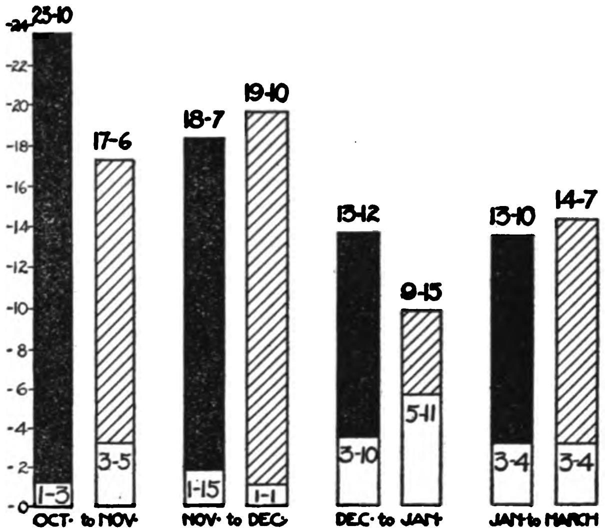

CHART II.

In the chart representing the comparative gain and loss in weight of the open window and control classes for Grade III there is less uniformity than in that for Grade V. From October to November the open window class gained 23 lbs. 10 oz. and lost only 1 lb. 3 oz. Thus the net gain is 22 lbs. 7 oz. as against a net gain of 14 lbs. 1 oz. for the control class. Again, in the period from December to January the open window class shows a greater net gain than the control class, but from November to December and from January to March the advantage is on the side of the latter.

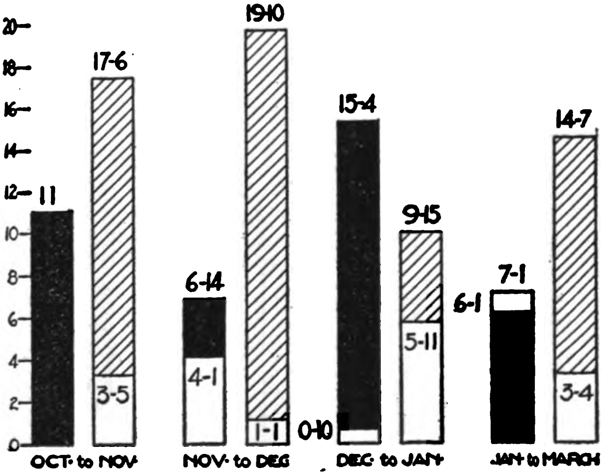

CHART III.

The chart for Grade II shows an unusual condition in the open window class record from October to November in that there is no weight loss but a total gain of 11 lbs. Nevertheless, the control class, in spite of a weight loss of 3 lbs. 5 oz. for the same period, surpasses the open window class in its net gain of 14 lbs. 1 oz. From November to December the difference in the net gain of the two is even more strongly in favor of the control class. From December to January, however, the advantage shifts, though it returns again to the control class in the period from January to March. In this last period the entire column for the open window class represents weight loss, so that instead of a net gain the record shows an actual net loss of 1 lb. as against a net gain for the control class of 11 lbs. 3 oz.

An examination of the charts shows a somewhat inconclusive result, though taken as a whole the classes held under ordinary conditions make more consistent gains and have fewer losses than the open window groups. Had the losses in weight of individuals during the year been confined to either one of the two classes, only one conclusion would have been possible. As a matter of fact, the number of different children losing weight is distributed about equally between the two groups.

	Sept.-Nov.	Nov-Dec.	Dec.-Feb.	Feb.-Mar.	Totals.
5 O. W.	0	4	5	9	18
5 Control	0	2	1	9	12
3 O. W.	3	3	5	6	17
3 Control	7	2	6	5	20
2 O. W.	0	2	1	4	7
2 Control	4	2	4	3	13
Total O. W.	..	..	..	..	42
Total Control	..	..	..	..	45

The above table indicates the number of children in each class actually losing weight during each period. The *amount* of loss is not taken into consideration. There are 42 instances of weight lost in the three open window classes and 45 instances in the control groups.

The element of weight gained is the one most commonly urged in support of the open window plan. It does not appear from this study that children will necessarily gain if required to sit in a room of that type. Even should a radical gain in weight be found, such gain is by no means conclusive evidence that the child is better off physically. The degree to which children are susceptible to the common ailments of cold and sore throat, or to contagious disease, would seem to be a reasonable criterion of physical condition and far more accurate than gain or loss in weight. Records showing absence from school for these causes were carefully kept and the tabulated records show no such variability as appeared in the weights.

HEALTH RECORD, 1913–1914.

	V. Open Window.		V. Control Class.	
	No. of Children.	Days Absent.	No. of Children.	Days Absent.
Colds	17	76	7	48
Sore throat	0	0	2	6
Contagious diseases	5	80	2	30

HEALTH RECORD, 1913–1914.

	III. Open Window.		III. Control Class.	
	No. of Children.	Days Absent.	No. of Children.	Days Absent.
Colds	13	52	13	37
Sore throat	2	2	1	2
Contagious diseases	8	123	7	62

HEALTH RECORD, 1913–1914.

	II. Open Window.		II. Control Class.	
	No. of Children.	Days Absent.	No. of Children.	Days Absent.
Colds	12	38	13	37
Sore throat	2	4	1	2
Contagious diseases	12	115	7	62

At the beginning of the previous year, 1912–1913, a second grade open window class had been organized and the health records were preserved for this class as well as for a control group. These pupils were given no extra food and the temperature was allowed to go as low as it would. In extreme weather the room thermometer often registered below freezing. At the end of the year the unfavorable physical showing made by the class was thought to be due to lack of extra food and to the low temperature allowed. Consequently the next year the conditions were maintained as indicated for the three classes. In spite of these changed conditions there is a striking similarity in the health record of the 1912–1913 class and the three classes for 1913–1914.

HEALTH RECORD, 1912–1913.

	II. Open Window		II. Control Class.	
	No. of Children.	Days Absent.	No. of Children.	Days Absent.
Colds	11	32	9	21
Sore throat	7	18	0	0
Contagious diseases	0	0	1	20

When we remember that these statistics are for four separate open window classes in three different school buildings and for two successive years, it is hardly conceivable that the close similarity in the records is merely a coincidence. It should not be forgotten that these classes represent groups maintained at a very low temperature and groups at a higher temperature; that we have children supplied with mid-forenoon lunches and children with no lunches. In fact we have included most of the variations likely to occur, and variation in conditions seems to make no difference. The resemblance in the records is noteworthy.

It was felt by those responsible for the classes that the experiment would not be complete unless some attempt were made to determine the effect of the difference in atmosphere upon the mentality of the pupils. The second grade, with its control class, was selected for the tests. Two of these were used, marking out "A's," and simple computation. The "A" test as given in Whipple's Manual was employed, the pupils being directed to mark out as many "A's" as they could. The time was carefully kept by the examiner and all were required to stop promptly at the end of 60 seconds. The other test was based upon simple mental computation of the following type: Add 5–9–5–4: 8–6–6–7: 22, take away 3; 13, take away 5. These problems were dictated by the examiner and the percentage of accurate answers written constituted the score. The tests were given regularly, one a half hour after the opening of the school in the morning and a similar one either just before the closing of the morning session or just before the closing of the afternoon session. The assumption was that both classes, with the development of fatigue, would make a poorer record on the second test, although the drop would be less decided in the case of the open window group. These tests were carried on for days and the results were a complete surprise. In the "A" test both classes made the poorer showing in the early morning, and both improved decidedly in the second period. This tendency was apparent not only at first but continued during the whole period of the experiment. The element of fatigue seemed to enter into the arithmetic test, since both classes, as a rule, showed the expected drop in power in the afternoon; but the anticipated difference between the two classes in the amount of fatigue was conspicuously lacking. The fact that both the control and the open window classes showed the same contradictory results with reference to the "A" test and the arithmetic test suggests a similar mental condition in both classes. As the following charts show, the results, to say the least, are inconclusive.

In marking out "A's" the two groups start at approximately the same point and end together. The upward tendency of the line is apparently the effect of practice but is equally marked with both classes. The control group takes an unaccountable slump in one morning record but immediately recovers the lost ground. The two groups differ greatly in their initial ability to handle fundamental operations, but even here, though on different levels, the lines are practically parallel.

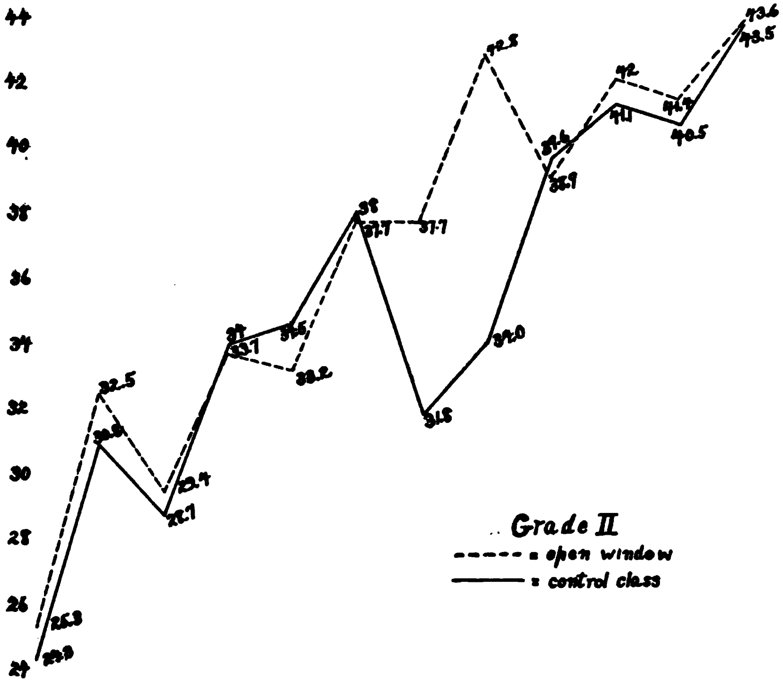

CHART IV.

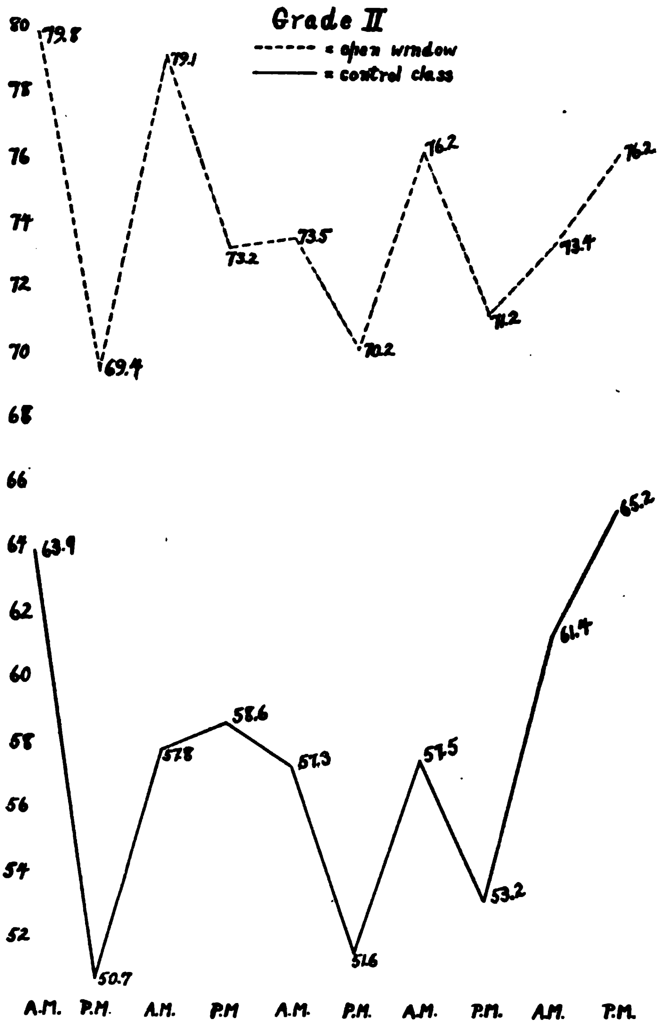

CHART V.

A surprising feature of the whole experiment with the open window classes is the attitude of the parents. Almost without exception they are convinced that their own children greatly benefited by the plan. This conviction is so positive that it is not affected in the least by the statistics of the classes. These parents assert that the children are less nervous, and that they eat and sleep better than ever before.

A possible explanation of the discrepancy between the results in Montclair and elsewhere is that the conditions are not identical. So far as Montclair is concerned the ordinary school ventilation is as good as can be secured. Large fans force quantities of warm, fresh air into all class rooms. Consequently the experiment resolves itself into showing the difference between warm, well-ventilated rooms, and cold, well-ventilated rooms. It is entirely possible that those schools in other communities, which have obtained excellent results from the open window plan, measure the difference between cold pure air and warm foul air. If this assumption is correct then the wide variation in the recorded results is not at all surprising.

One conclusion, however, is unavoidable, and that is, the absolute necessity for basing our school policy upon well ascertained facts rather than upon mere opinion.

A GROUP OF CHILDREN AS CLINICAL PROBLEMS.

By Gertha Williams,

Graduate Student, University of Pennsylvania.

Most of the cases received at the Psychological Clinic of the University of Pennsylvania come as individuals, not in groups, but nine of the cases examined during the summer of 1914 came as one group with certain characteristics in common. They were all Jewish and were sent to the Clinic by a Jewish charitable institution in Philadelphia. With the exception of one child they lived at the Home during the day, returning to their own homes at night.

The nine children are:

Albert	7 years	backward
Sam	9 years	backward
Bella	8 years	delinquent
Jacob	7 years	backward
David	12 years	delinquent
Morris	11 years	backward
Bessie	10 years	delinquent
Celia	7 years	backward
Rose	8 years	backward

Albert is seven years old and an only child. He was brought to the Clinic because of pedagogical retardation. His father is dead and his mother is employed in a factory. She is in poor health and is soon to undergo an operation. They live on the fourth floor of a tenement, occupying but one room, which is fairly clean. Albert's health is good and there are no marked physical defects. The mental examination showed him to be of normal mentality although his mental processes are sluggish. He has a slight speech defect. He may require special instruction to bring him up to grade. It was recommended that he begin again in the first grade in the fall and if, in the teacher's judgment, he does not make satisfactory progress that he be transferred to a special class at the end of one month.

Jacob is seven years old. He was brought to the Clinic because of backwardness in school. His mother died of tuberculosis; otherwise the family history is good. The father is a laborer and is reported to possess only low-grade intelligence. But as he is able to support his family and himself, he is probably not feebleminded. Jacob has one sister who is backward.

While pedagogically retarded, Jacob seems to be of normal mentality, but he is in a poor physical condition. He is anemic, restless, and easily fatigued. His poor physical condition is the probable explanation of his retardation, and the first consideration should be given to proper physical care. Special instruction, preferably in a special class, may be necessary to held him overcome the retardation his physical condition has caused and bring him up to his grade.

Sam is nine years old. He was brought to the Clinic because of backwardness. He has been in school three years and is now in the upper second grade doing poor work. He does not like school but is fond of "cleaning up," and does work of that nature well. He does not obey readily, but this is rather because he forgets or fails to understand. He is quarrelsome and does not get along well with other children. His health is good but he is always in a very unhygienic condition. His mother is employed during the day, and as she is of low-grade intelligence, is unable to give him proper care. The father is dead.

Sam reads with good pronunciation and articulation and with fair expression. His arithmetic is only fair with concrete material. In general conversation his answers are unintelligent. According to the Binet scale his mental age is just seven; his responses are very slow. He could not reproduce the lozenge correctly but realized that his reproduction was poor. His auditory memory is only fair; visual memory poor. Questions associated with his life he answered well, but those requiring thought were more difficult for him. He described a picture of common objects accurately and was able to execute three commissions, but he could not compare a butterfly and a fly, or wood and glass.

Sam is a more discouraging case than the other two boys. His health is good but the home conditions are poor. His mentality is doubtful, but one does not like to call him feebleminded without further observation. He is a good example of a case in which the special class teacher can render valuable assistance to the examiner in making a final diagnosis. He should be placed under a teacher capable of making intelligent observations of his reactions, and returned to the Clinic for re-examination. Then a diagnosis can be made, based partly upon the teacher's report of his progress and partly upon the two examinations.

Bessie is ten years old. She was brought to the Clinic because she is reported to be nervous, disobedient, and morally irresponsible. Her behavior with boys is undesirable, indicating that she might become immoral when older. She writes silly notes to the boys and is, as the social worker who brought her expressed it, "fresh" with them. While not vicious she is disobedient, noisy and quarrelsome.

She is unusually well developed physically and is in good health. Her birth was natural and she was a healthy baby and seemed like other children. She has had no serious illnesses except diphtheria. Her tonsils have been removed.

In school she is in the upper fourth grade. She entered school at five and has had two long absences. Her conduct in school is only fair. She reads with good expression, articulation, and pronunciation. In memory type she is visual. Her spelling is good in that words recognized with difficulty or misread are spelled with some degree of accuracy. Her written spelling is superior to the oral. In arithmetic she is inaccurate but reasons fairly well. There is nothing in her mental condition to account for her delinquent tendencies, as her mentality is certainly normal.

The home is crowded but fairly clean. The father and mother are of ordinary mentality. At the time the home was investigated the father was just recovering from the effects of an operation and the mother was ill and expecting to have an operation in the near future. It seems to me that right here we have the probable explanation of her delinquent tendencies. With the father and mother both ill, there is no one to take proper care of a girl of her age. She needs judicious discipline and a favorable environment. She is to be returned to her grade in the fall, and if delinquent tendencies continue, is to be removed from her home for a time.

These few cases are fairly representative of the group and will serve to illustrate the following points:

In all examinations of children at the Clinic the practical side of the question is never lost sight of. There is always an attempt to answer the question, "What is best to be done for this child?" The whole examination revolves about this point. In order to answer this question several other questions must first be answered.

The clinicist asks himself in what way the child deviates from the normal. There are two possibilities. The child may be backward or delinquent, as in the cases cited above. This problem does not detain the examiner long, as the reason for bringing the child to the Clinic usually clears up this point. Then the cause of the delinquency or backwardness of the child must be determined. This is not so easily discovered. The cause may be found in the child's mentality, in his physical condition, or in his environment. In the cases of Albert and Sam, for example, the cause was found in the mentality of the children, in Jacob's case it was his physical condition, and in Bessie's an unfavorable environment.

After the child's condition is diagnosed, definite and specific advice is given to the parent or guardian as to what is to be done for him. This advice is of a practical nature, based upon real conditions, and is not merely an ideal prescription of what would be best for the child under conditions which do not exist. The advice varies with each child. It may be the suggestion of an institution, public or private, a special class or other form of individual instruction. Or the examiner may merely suggest a different method of dealing with the child in the home.

In the giving of advice much tact is necessary. The best of advice must be sugar-coated. Parents are loath to believe their children feebleminded. Also there is much ignorance and prejudice against institutions to be overcome. If the trouble is in the home itself, the situation is a delicate one. It is very difficult to persuade a parent that his method of dealing with his child is wrong or that his home is not the proper place in which to bring up his child.

The work of the social service department is of great importance to the Clinic, for follow-up work is absolutely necessary to secure the best results. The parents need help and encouragement in carrying out the recommendations of the examiner. The formality of entering a child in an institution would discourage most parents if there were not some one to help them. It is often necessary for the social worker to go into the home and help the parents to readjust themselves and their home to the needs of the child. It is also her duty to see that the child is brought to the Clinic for re-examination on the advice of the examiner. This careful follow-up work makes it possible to keep in touch with the cases tested at the Clinic and to learn the effect upon the child of the treatment recommended. Thus there is a check upon one's own work which is of great value when a similar case comes up.

It is not always possible to give a final judgment of the child's mentality at the time of the first examination. The diagnosis is essentially a prognosis and for this reason it is often necessary to keep the child under observation for a time or to try the effect of a given course of treatment or special instruction upon him. Then when the child is brought for re-examination a truer judgment of his mentality can be made, based upon the progress he has been able to make under proper conditions.

It will be seen that the clinicist cannot rely on any set of mental tests alone to give him a complete picture of any given case. No source of information is to be disregarded. The answer may be given by the mental tests or the solution may lie in the environment of the child or in his physical condition. Each child is treated as an individual and no general rule can be framed to apply to all cases. The examiner must be ready to follow any "lead" given him, whether it be found in the mental examination or in some apparently insignificant bit of information brought to light in the preliminary examination. Every action of the child is significant from the time he enters the room until he leaves it.

It is here that the experience of the examiner is important. He must have the tact to get the needed information about the child from a sometimes reluctant parent and the ability properly to interpret the child's behavior during the examination. Dr. Knox of Ellis Island has very aptly named this ability of the clinicist to "size up" a given case from his experience with other similar cases the "human test".

THE FACTOR OF EXPERIENCE IN INTELLIGENCE TESTING.

By Rudolph Pintner and Donald G. Paterson.
Ohio State University, Columbus, Ohio.

This paper will endeavor to show that the factor of experience in intelligence testing depends upon the type of test used. In a previous article[1] the writers showed that those defectives over fifteen years of age, as compared with defectives below fifteen years of age of the same mental age, greatly excelled in two tests of the Binet-Simon scale, *i. e.* naming the days of the week and the months of the year. Results from a similar comparison with a different type of test show that when *real* intelligence tests are used children greatly excel adults of the same mental age computed by the present Binet-Simon scale.

A discussion of the results of our previous paper was made in the February (1915) number of The Psychological Clinic by Dr. J. E. Wallace Wallin,[2] who restated a previous study of his concerning this factor which we call experience. He showed that adults excel in reading tests as compared with children, concluding that here the practice or experience factor was the cause. In the form board test however the children excelled, due according to Wallin's opinion to a more extensive practice with such devices in the school room. In the color-naming test the children also excelled in the *time taken to re-act to the situation.* The children excel in uncontrolled free association as they do in immediate memory also, *i. e.* recalling the content of a reading selection. In all these cases Wallin's contention is that this superiority on the part of the children is due to schoolroom practice. We do not agree with this position but hold rather that the children excel because these tests are more adequate measures of intelligence than are such tests as the week-days, months, and reading tests.

If we accept Stern's[3] definition of general intelligence as general mental adaptability to new problems and conditions of life, then those tests that call for adaptations on the part of the re-agent to relatively new situations will best discriminate between degrees of intelligence. Empirical evidence shows this to be the case. Based upon an analysis of the Binet-Simon tests given to feebleminded children, Chotzen[4] found that among children of the same mental level, some tests show a decided increase in capacity with increase in chronological age, others no alterations, while there was an actual decrease in others. Stern[5] quotes Chotzen thus, "The tests accompanied by strong increase with age relate, then, almost exclusively to matters of information. . . . No increase at all is present with tests that demand ability to judge and to combine or with such as put severe demands upon apprehension—comparison, problem-questions, noting omissions, repeating five digits." It is thus seen that tests in which the experience factor is ruled out to a relatively greater extent correlate most highly with general intelligence.

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[1] Experience and the Binet-Simon tests. The Psychological Clinic, Vol. VIII, No. 7, December 15, 1914.

[2] J. E. W. Wallin. The Binet-Simon tests in relation to the factors of experience and maturity. The Psychological Clinic, Vol. VIII, No. 9, February 15, 1915.

[3] Stern, William. Psychological methods of testing intelligence. Tr. by G. M. Whipple. Baltimore: Warwick & York, 1914, p. 3.

TABLE I.—SHOWING RESULTS OF KNOX CUBE TEST.

M.A.	21 or above.		20 or below.		15 or above.		14 or below.		15 to 21.	
	No.	Ave. No. Lines Passed.	No.	Ave. No. Lines Passed.	No.	Ave. No. Lines Passed.	No.	Ave. No. Lines Passed.	No.	Ave. No. Lines Passed.
5	7	1.14	21	2.04	14	1.64	14	2.35	7	1.42
6	11	1.18	37	2.13	31	1.58	17	2.52	20	1.80
7	15	1.80	36	2.80	32	2.03	19	3.31	17	2.23
8	11	2.45	39	3.92	36	3.16	14	4.00	25	3.88
9	24	2.79	39	4.20	51	3.54	12	4.16	27	4.29
10	21	4.27	31	4.54	55	4.38	5	4.80	26	4.50
11	13	3.76	15	5.46	26	4.73	3	4.00	13	5.69
Total . . 102 Grand Total . . 320			218							

Keeping these points in mind we will proceed to consider the results obtained in testing 320 feebleminded inmates of the Ohio Institution for Feebleminded Youth[6] with the Knox Cube Test[7] revised and standardized by Pintner.[8] The tests were not made with the view of showing such facts as we here present, but for the purpose of comparison with normal children of corresponding ages. Bias in giving the tests to the older and younger feebleminded individuals is thus ruled out. The test as here given consisted of ten different combinations of tapping four Binet cubes with another cube. Each combination is called a "line". Table I shows the average number of lines passed by feebleminded children of different mental ages (determined by the Binet-Simon Scale, Goddard Revision). The cases are classified in five groups based upon chronological age. Under the first heading is given the mental age, under the second, the group above 21 years chronologically; the third, those below 21; the fourth, those above 15; the fifth, below 15 and the last those between 15 and 21 years. Under each group is given the number tested and the average number of lines passed.

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[4] *Ibid.*, p. 89.

[5] *Ibid.*, p. 89.

[6] The writers wish to acknowledge the courtesy of the Superintendent, Dr. E. J. Emerick.

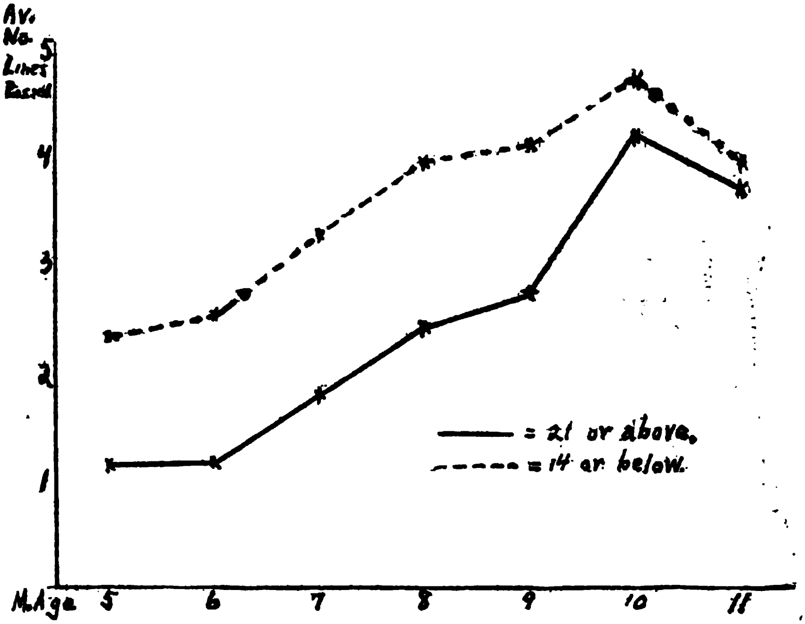
[7] HOWARD A. KNOX. A Scale based on the work at Ellis Island, for estimating mental defect. *J. of the Am. Med. Assoc.*, March 7, 1914, Vol. LXII, pp. 741-747.

[8] The standardization of this extended Cube Test to be published shortly.

This chronological grouping is quite arbitrary and was decided upon merely to see what changes take place in the relative efficiency of three stages in chronological development, *i. e.* children below 15, between 15 and 21, and over 21. Wallin holds that the difference between those over 21 and below, of the same mental age, is due to physical growth, to maturity. As we conceive it, that question can not enter into such a consideration as we have before us, for this reason, that if their superiority in any test is held to be due to the factor of growth alone, then they should excel in all the tests of that age and would consequently test higher. The comparison would then break down. The factor that causes this discrepancy between the two groups is one of experience, *i. e.* they will excel in those tests which depend upon daily experience. The difference is due to the kind of test and not to any maturity difference or any intellectual superiority.

Although maturity and experience are two factors which are no doubt closely inter-related, yet they are different, and it is well to avoid confusion between them. The distinction is not made clear by Wallin, and it seems to us that he at times regards them as one factor only. We doubt whether maturity, "the processes of physical maturation" as Wallin calls it, enters very much, if at all, into the tests that have been discussed in these articles. We can well imagine that very young children may not be able to do as well on the form board because of their inability to co-ordinate the movements involved in grasping and placing the blocks. This would be due to a maturity difference and would apply to young children only, younger than any that have been considered by Wallin or by us. Experience, on the other hand, refers to the number of times an individual has been confronted with the same situation, and should be kept distinct from maturity. We can not conceive of maturity differences entering into any of the tests under discussion with the individuals tested, but experience differences obviously do, and yet only in some specific tests. We have mentioned the days and months test as cases in point. Wallin suggests the reading test as well, and doubtless rapidity of reading depends to some extent upon experience. The children are superior to the adults on the form board. We agree with Wallin that the form board "represents a novel situation," and we feel that he contradicts himself when he says further on that the children do better because of their greater experience with situations of this kind.

In considering the results in table I it will be seen at once that on the cube test in each group there is a constant increase in efficiency for each mental age. However between the five groups in any mental age (age XI excepted) we find differences of efficiency that are significantly constant. Take age V for example, we find those below 15 doing the best with an average of 2.35; those aged 20 or below come second with an average of 2.04; those aged 15 or above, third with 1.64; those aged 15 to 21, fourth with 1.42, and last those over 21 passing only 1.14 lines. The same tendency is seen for each mental age. The curve shows graphically the average efficiency per mental age for those over 21 (solid line) and for those below 15 (dotted line).



This curve enables us to see at a glance that the children are superior to adults throughout all mental ages. This is in direct contrast to the results found in our paper on the days and months test.

Now, we could take the average number of lines passed for all ages for each group, but this would not be accurate for we have not tested the same number in each group in each mental age. It gives us an average which is not a proper basis for comparison. By inspection of table I we see that the younger the child chronologically, the more lines he passes. This holds for all mental ages up to X. Now, the Binet-Simon scale is more adequate at the upper end even although it may not be accurately standardized in ages XI and XII. We mean by this, that ages X, XI, and XII are composed for the most part of tests that present *new* situations to the re-agent. We never put dissected sentences together, we do not draw designs from memory and so on. But we do make change and count pennies, we often have to find the date and think of the day or month and sometimes buy stamps and count them. These are things an individual, even an inmate of an institution, is doing more or less constantly. So from our point of view and in line with Chotzen's results, we would not expect to find any age increase in efficiency when subjects mentally arrested above a mental age of IX are considered. Thus there would be no great difference between the five groups in mental ages X and XI. That is exactly what we find. Those over 21 make a great jump in efficiency from IX to X, and although the tendency for the younger children to excel is still present, it is not nearly so conspicuous. We can not explain the apparently chance dropping off in age XI of the adult group, but it is to be noted that only 13 eleven year olds were tested as compared with 24 and 21 in ages IX and X.

Our interpretation of these results is that up to age X the Binet scale contains some tests which depend very largely upon daily experience and hence the older the child tested the more liberal is the estimation of his mentality as computed by the present Binet scale. That is, given two individuals, one twelve and the other twenty-one, both having a mental age of VIII, we believe that the one twenty-one years old is not really VIII but has a mentality below VIII. But if both cases had been measured by a scale that has eliminated the experience factor as far as possible, their difference in mentality would have been shown. Now any two individuals, no matter what their chronological age, testing the same by such a scale, would show about the same average performance in any other test involving practically no experience.

We will next take up the consideration of a different test, *i. e.* Knox's Feature Profile. This test is placed before the child with the following verbal direction, "Put this together." It pre-supposes on the part of the subject an ability to read a diagram, to perceive the seven pieces of the profile, as a head, to synthesize in other words the various parts into a whole. The results are given in table II.

TABLE II.—SHOWING RESULTS OF FEATURE PROFILE TEST.

Chron. Age Group.	Mental Age.																				
	5			6			7			8			9			10			11		
	P	F	%	P	F	%	P	F	%	P	F	%	P	F	%	P	F	%	P	F	%
21 or above..	0	6	0	0	7	0	3	9	25	2	9	18	4	7	36	17	10	63	11	1	91
20 or below..	0	9	0	1	12	7	0	9	0	1	5	16	17	9	65	22	3	88	6	1	85
15 or above..	0	8	0	1	14	6	3	14	17	2	11	15	16	16	50	36	13	73	15	2	88
15 to 21.....	0	2	0	1	7	12	0	4	0	0	3	0	10	8	55	19	3	87	4	1	80
14 or below..	0	7	0	0	5	0	0	5	0	1	2	33	5	2	71	3	0	100	2	0	100
Total over 21 = 86 Total below 21 = 93 Grand Total....179																					

Under each mental age are given three columns, one showing the number of passes (*i. e.* when subject puts the parts together correctly within five minutes), one the number of failures, and the third the percentage of passes. The first column gives the chronological group considered and by reading across the table is found the increase in efficiency from mental age to mental age, by reading up and down is found the difference in efficiency for each group in any mental age. There are 179 cases recorded, 86 above twenty-one chronologically and 93 below twenty-one. This table is not so satisfactory as table I in showing these group differences because of the relatively few cases tested below 15 years.

Below age IX there is no basis of comparison because of the lack of subjects. In age IX however we find that those below fifteen have a percentage of passes of 71, those below twenty-one have 65 per cent, those fifteen to twenty-one have 55 per cent, those above fifteen have 50 per cent, while those above twenty-one trail along behind with only 36 per cent of passes. It is significant that even with the small number of cases we find exactly the same tendency that manifested itself in table I. In age X we find the same tendency as in age IX but to a lesser extent, as in table I.

In the Cube Test it is obvious that the test does not depend upon experience in the limited sense of the term as we use it, but depends upon the ability to imitate, to attend to an externally enforced rhythm. It may be said that the Feature Profile Test depends upon school training in that children in school play with blocks and puzzles, but even so the test is so simple that an adult (who has had years of school training also) were he really of the same mental age as the child would be as efficient in meeting the new situation. We hold then that it is not a question of physical growth but rather of a too liberal estimation of an adult's intelligence by the Binet-Simon scale.

In conclusion we may ask, what does all this show? We believe that first, it is of value in calling attention to the fact that the interpreter of Binet test results must take into account this factor of experience when summing up his case, and secondly, that tests dependent upon experience (when proven so by sufficient evidence) should be eliminated from scales designed to test adults over fifteen years of age, and thirdly that it is of the utmost value as a method of determining the relative value of any additional tests that the psychologist may wish to standardize. With reference to this last point we mean that by this method we have empirical proof that the test in question is or is not a *real* test of general intelligence. Using this method then as a criterion, we can say that naming the days of the week and the months of the year (and possibly other Binet tests such as counting thirteen pennies, copying a square and a diamond, naming colors, telling forenoon from afternoon, and defining in terms of use) lack the essentials of true intelligence tests while other tests such as the Knox Cube Test and Feature Profile Test possess those characteristics which meet the requirements laid down by Stern for tests of general intelligence.

MORAL IMBECILITY FROM A RESPECTABLE FAMILY.

By Margaret Otis, Ph.D.,
Philadelphia, Pa.

The term *moral imbecile*, used in contradistinction to *mental defective*, indicates that the individual in question is bright in most respects, but is incapable of appreciating moral standards as ordinarily accepted. The question whether there are moral imbeciles according to this definition is debatable. The difficulty is that moral standards are constantly changing, different races and different nationalities have varying standards, and the various social classes at present existing have standards which are not compatible with one other. In addition to this difficulty comes in the time-worn argument as to whether the moral sense is acquired or inherited. Is the appreciation of the difference between right and wrong a unit character which can be handed down from generation to generation according to the Mendelian law?

It seems unfair to take as an example of a moral imbecile one of the type usually selected. The social standing of the parents is important in this regard and also the early environment. Are not most of those ordinarily classed as moral imbeciles such because of environment? A case should be selected where the social standing of the parents is good and the environment cannot be questioned. Then the mental capacity of the individual must be tested carefully so that it is perfectly clear that defect of moral view-point only is involved. It might be noted in passing that most delinquent girls have faulty environment, so that it is difficult to find from this field a case for consideration under this head. The following case, however, presents some features which would justify such a classification, and is submitted for consideration as possibly a true moral imbecile.

Nell Lewis was the child of respectable parents who lived in a town in the northern part of New Jersey. The environment of the home was that of the average middle-class household. The father was industrious, the mother had aspirations for an intellectual life for Nell and wished her to go to college. Every advantage that would conduce to this purpose was given the girl. Physically Nell was remarkably well developed. She was born at full term and was a very lively baby and exceptionally well, but was always headstrong and very stubborn. She was deceitful, seemed restless, and would never settle down to anything. Her mother said that she always wanted to be "bigger than anybody else" but did not inherit this characteristic from anyone in the family.

Mentally Nell appeared to be perfectly normal. On the Binet testing she missed but two questions, one the long sentence in the XII group, the other the rhymes in the XI group. Her associations were logical, and she did well on other tests. She had had a fair education. had gone through the second year of high school, had studied in a business college, and had been a stenographer for a year and a half.

Morally Nell was undoubtedly defective. The tendency to deceive her mother seemed to be the starting point of her criminal career. She was committed to a Home for Delinquent Girls on the charge of larceny. She had been guilty of larceny on two or three different occasions. She was suffering with venereal disease, and had been in a private institution in New York City. All her wrong doings were done secretly. Her troubles seem to have begun when she was a small school girl. It seemed impossible for Nell to speak the truth. She would invent a long story, later would say that her conscience troubled her and that she wished to tell just how the event actually occurred, but what she told on the second occasion was no more the truth than what she told on the first. Nell was never trusted out of the Home all the time that she was under state care. She was in all the mischief that she could well be during this time, and was among the foremost in having love affairs with the colored girls. It was learned from one of Nell's friends that she had once told her that she had "killed a fellow." He was an Italian and Nell had shot him and covered him with leaves. She had escaped to town and had gone to a nursing school. She supposed she would go to State's Prison, but her mother pleaded for her to have her sent to the Girls' Home instead. This report of Nell's having committed murder was learned from another source, for another Home girl had made the statement that there was a rumor among the girls to the effect that Nell had killed a man. This was probably mere bravado, and was due to Nell's love of the sensational and desire to pose as a heroine in the eyes of the girls.

An effort was made to find out from Nell her own interpretation of her moral delinquency. She was asked what was the reason for her first lapse from right conduct. She said she thought it was a lark, also that when she went to Sunday School, she went to look at the boys and to show her clothes. There was a musician there who played the flute. She hung upon him and went around to the rehearsals. She never had any compunction as to her wrong doing. She never gave it a thought, thought it was smart. In dancing she thought of the prize she was going to get. She used to wonder if her father was following her up. She did all her wrong doing without the knowledge of her father and mother. Her mother was hard of hearing, so that made it easier for her to get out nights. She used to get out of the window and slide down a pole. She used to go in swimming, and went with an expert swimmer. She became sunburned, and her mother asked her what was the matter. She said: "When I was working lime blew in my eyes." At one time she had had friends who were good girls, but later she preferred the "fast set" rather than the "goody-goods". When asked if she was ever under her mother's influence, she said: "No, if she ever started preaching to me, I got out." Nell said that she used to get medals as prizes for dancing. She sold them and gave the money to young men. One of them wrote to her and her mother opened the letter when she was away. Nell was supporting this man by money she earned getting prizes. He was a gambler. When asked how she felt in regard to this way of living, she said that then she thought just about having a good old time, she wanted to be popular with the bunch.

As an experiment Nell was given some moral instruction to see if she might be capable of benefiting thereby. In any discussion it was not easy for Nell's mind to get beyond the concrete. It may be suggested at this point that this characteristic indicates a certain mental defect. A certain level of intelligence is required for the appreciation of abstract truth, and this level Nell did not reach. The difference between subjective and objective was explained to her and at times she seemed to understand this, though often with this and other things it was more a matter of verbal memory. She could remember well the explanations that were given her.

The following association test was given with the purpose of bringing out the trend of her mind. A paper was given Nell on which was written a list of words with the instruction that she should write down the very first thought that came into her mind on seeing the word. She seemed to carry out this instruction conscientiously, thinking that it was intended as an examination of her school knowledge. The words and responses were as follows:

Interest	I thought of my lesson of interest and discount when I was studying bookkeeping.
Curiosity	To know whether certain things I heard about my going out were true.
Passive	I thought about the meaning of this word right after reading the word. Quiet, a person can be passive, don't race around.
Knowledge	I was thinking if I could have more knowledge than I have about my inner soul.
Truth	I thought of the thought you gave me about truth.

Excitement	I thought of how excited I was when I was told I could go to the car to meet the Superintendent.
Desire	Of the time I would be a nurse.
Honesty	Honesty is the best policy.
Success	Wondering if my nursing would be a success. I am always thinking of nursing.
Wilfulness	I try to be very wilful. I was just wondering if I were as wilful as I might be.
Love	I have been trying to put my love on thoughts of the sewing I would have to do when I leave here.
Mechanical	My first thought was of a mechanic. Then I thought of a friend I had who was one.
Criminal	*"I never was a criminal"* was my first thought.
Hope	I hope to be a good woman some day.
Instantaneous	Instantaneous means anything said or done right on the dot.
Beauty	Beauty means anything that's pretty to the eye.

At another time the same experiment was tried with the following responses. What is especially to be noted in these responses is the constant reference to self. This indicates an extremely self-centered individual, and such an inference is certainly justified in this case. The same instruction was given as in the experiment above.

Riches	I thought first about some people I know by the name of Rich.
Pleasure	I was thinking of how I thought out "subjective and objective pleasures."
Mischief	My first thought was about all the mischief I have been in.
Jealousy	My first thought was about what the minister said one Sunday: *"Jealousy leads to murder."*
Meanness	Some people are very mean.
Self-consciousness	My self-consciousness has proved itself.
Vigor	I have lots of vigor.
Deceitfulness	*I am not deceitful.*
Monstrosity	The word puzzled me at first.
Egoism	I had this word in class.
Pride	I take lots of pride in trying to keep myself looking neat.

Ignorance.........*I am not ignorant.*
Hatred...........I have noticed the hatred of many people.
Buoyant..........I am very buoyant.

It is interesting to note that some of the responses in this association test could be used as an indication that there might be some truth in the rumor current in the Home as to Nell's criminal career.

As to the question suggested above of considering this girl a moral imbecile, it may be urged that the lack was in the mother who failed early to get control of the child. A strong personality in the mother, perhaps, would have been able to cope with the strong-willed child. Yet, after all, Nell chose her own. She had the opportunity of associating with the best, was even urged and pushed toward what is regarded as the highest type of life. Yet with all that, though the best was placed before her, she preferred the worst. Like attracts like. She gravitated to her kind, and her kind apparently were not the kind of her parents.

REVIEWS AND CRITICISM.

The Psychological Methods of Testing Intelligence. By William Stern. Tr. by Guy Montrose Whipple. Baltimore: Warwick and York, 1914. Pp. x+160. (Edu. Psych. Monographs No. 13.)

The work of which this is the English translation, was completed in German in October, 1912. Therefore it necessarily fails to cover the very extensive discussion of tests, which has been carried on the past two and a half years.

Professor Whipple remarks that this "book affords what is, so far as I know, the best, and in fact almost the only authoritative, critical, and compact general survey of the literature of intelligence testing, which is adapted for lay readers as well as for professional psychologists." It will be observed that Dr. Stern's critical faculty expends much of its force upon the literature of testing, and does not go far enough in questioning the validity of the concept of 'intelligence' as used by the testers. After saying, "We not only limit intelligence by setting it over against the emotive and volitional nature of an individual, but also ascribe to it a definitely restricted place within the mental functions," he proceeds to formulate his own definition as follows: "*Intelligence is a general capacity of an individual consciously to adjust his thinking to new problems and conditions of life,*" and adds, "If talent be a material efficiency, intelligence is a formal efficiency." Dr. Stern trusts "that distinctions may serve to lessen the confusion that has been current," but confusion certainly reigns in his definition until we recall the Platonic distinction between matter and form, and understand the peculiar sense in which he is using 'material' and 'formal.' This may be partly due to the translator. Dr. Stern is none too clear, again, when he says, "The fact that intelligence can be more easily treated quantitatively than can other individual capacities, must not lead us to overestimate its import. Nevertheless the fact that we can deal with intelligence by itself, does serve to disclose the structure of the personality. We can determine whether a performance of greater or lesser degree depends on talent or on intelligence; we can investigate what degree of correspondence exists between the experimental results and the teachers' judgments of the intelligence of pupils."

Three main lines of activity furnish Dr. Stern with the principle of division of his treatment: (1) single tests; (2) the Binet-Simon scale; (3) the correlation methods of Pearson, Spearman, and others. With regard to the slow growth of method he comments, "It will be long, very long, before we realize the optimistic hope that Spearman attaches to the correlation method of testing intelligence, when he says, 'Indeed, it seems possible to foresee the day when there will be an annual official determination of the intellectual index of every child in the [British] empire.'" Dr. Stern emphasizes the fact "that tests of intelligence are not easy to conduct. Their administration demands extended practice, psychological training, and a critical mind," and he cites as an example of the commonly prevailing mistaken ideas upon this matter, Captain Meyer's [of the German army] declaration that "in military enlistment tests of intelligence could some day be carried on quite mechanically by subalterns."

In the beginning, "For a long time," says Dr. Stern, "we started from the erroneous presupposition that any psychological method of experimentation would be really usable as a test," and he considers, "A significant advance was made when it was recognized that tests of intelligence must be definitely selected on the basis of certain presuppositions that were to be made concerning the nature of intelligence."

"Various psychologists," Dr. Stern remarks, have considered various "mental functions to be the touchstone of intelligence." He mentions the "combination" or "completion" method of Ebbinghaus; Ries' word-association test; "the combination test of Masselon in which a meaningful sentence is to be made from three given words," and Meumann's elaboration of this test to require a logical or moral connection between the words combined; Heilbronner's picture-test; and Bernstein and Rossolimo's use of cut-up pictures which are to be fitted together. "In an earlier stage of his work," says Dr. Stern, "Binet believed that the essence of intelligence was capacity to adjust attention. . . . In the work of Meumann we note at times the laying of a certain one-sided emphasis on the understanding of the abstract as being the root of intelligence. . . . Quite a number of investigators have directed their attention particularly to capacity to apprehend, as the index of intelligence."

A third main class of tests includes "those patterned after familiar pedagogical tasks," and here we are surprised to find no mention of Mr. Courtis' work, the first reports of which appeared as early as September and November of 1911. Not being aware of the Courtis tests, Dr. Stern is to be pardoned for his comment, "The intelligence of individuals that are working or that have worked, under different school conditions cannot be subjected to comparative tests by means of these activities."

In his fourth main class Dr. Stern places those tests which "aim to secure records of such evidences of intelligence as are accepted in ordinary life as special evidence of it. These direct tests of intelligence have been specially developed by the psychiatrists; they comprise such things as defining, comparing, differentiating, the understanding of proverbs, grasping the point of a joke, seeing absurdities in verbal or pictorial presentations."

"*No single test, no matter how good it may be,*" says Dr. Stern, "*should ever be made the instrument for testing the intelligence of an individual.*" He seems to have no appreciation of the formboard as a testing device—indeed, he fails even to mention such a thing. Had he studied the operation of the formboard test with normal and subnormal children, it is almost certain that he would have wished to retract this sweeping opinion.

From a study of separate tests, "three things are evident: first, *series* of tests must be arranged that will set in play the various constituent functions of intelligence; secondly, for this purpose there must be a wise *selection* of tests, . . . thirdly, there must be created a system by means of which the several particular results of the testing can be united into one *resultant value*, *i. e.* a value that shows the grade of intelligence of the subject objectively in an inclusive formula in which performances of different degrees of value shall in some way be compensated."

"Numerous test series," Dr. Stern explains, "have been used by the psychiatrists for testing intelligence," and among them he mentions the classifications of Sommer and of Ziehen. A highly interesting method of testing and recording mental ability is that of the Russian alienist, G. Rossolimo, and we could wish that Dr. Stern had given us more information about it. "Rossolimo," he says, "has contrived ten tests for each of ten different mental functions. The results obtained from the single subject are set out graphically by erecting ordinates corresponding to the number of the tests achieved for each of the functions under test. The ends of these ordinates are then joined to make a curve that Rossolimo calls the 'individual profile'."

Part II, which comprises the middle two-thirds of the book, is concerned with the method of age-gradation (Binet-Simon method). The discussion here will be largely an old story to Americans who have followed the work of Goddard, Wallin, Johnstone, Terman and Childs, Pintner, Town, and others in this country. Dr. Stern deals all too briefly with a phenomenon which has drawn the attention of many clinical psychologists who have applied the Binet tests, *i. e.* the *range of irregularity* (*Streuungsbreite*). "A child whose successes and failures are strewn irregularly over test-levels from six to ten years has the same mental age, to be sure, but a very different range of irregularity, when compared with another whose mixture of successes and failures lies in the seventh to the ninth years only. Bobertag, who first gave attention to the importance of differences in ranges of irregularity, has devised a way of computing this factor; I have myself suggested another way, but neither has been published as yet." Further on he says "*The area of irregular distribution is very much wider with the feebleminded than with the normal child.*"

Part III deals with estimation and testing of finer gradations of intelligence. Dr. Stern decides that neither the Binet test nor the ordinary school ranking is adequate to show the *degree* of intelligence of the pupil. He asks, "*Is it possible, on the basis of a short examination with a series of tests to arrive at a gradation of pupils that corresponds with their actual differences of intelligence and such that the rank that each gains is sufficiently characteristic of his grade of intelligence within the group?*" He finds of dubious value Spearman's method of testing and correlating, because "The mere comparison of tests with one another affords us neither a clear insight into the necessary compensations, nor a decision as to the symptomatic value of the testing; *rather must we seek the means of gauging the tests in some criterion that lies outside of experiment.* Such a criterion is supplied by the estimation of the pupils made by the teacher." He approves Binet's suggestion that this task of estimating intelligence be assigned to "teachers specially trained and specially gifted in psychology," and he adds with emphasis, "*Only those pupils should be located in a given rank-order of intelligence that are sufficiently like one another in other respects.*"

In this connection Dr. Stern contributes some original investigations of his own, in which he had three different teachers estimate the intelligence of an *Untertertia* grade in a *Gymnasium* (equivalent approximately to our first high school year). He comments upon the result, "This decided correspondence of the judgments of the teachers on their pupils' intelligence, taken in conjunction with the fair degree of independence of their judgment from the class-place, seems to me to be a forcible argument for the scientific usefulness of the method of intelligence estimation." In conclusion he sums up the points to be observed in working at the problem of ranking by tests, as (*a*) measurability; (*b*) reliability; (*c*) fairly high correlation; (*d*) comprehensiveness; (*e*) estimation of intelligence; (*f*) construction of an amalgamated rank-order.

The book has a complete bibliography of material published from the summer of 1911 until September, 1912, which is intended to supplement the bibliography contained in Dr. Stern's earlier work, *Die differentielle Psychologie*. Professor Whipple has done a real service in making this discussion of intelligence testing available for English readers.

A T.

NEWS AND COMMENT.

Employment and Compensation of Prisoners.

The Pennsylvania Branch of the American Institute of Criminal Law and Criminology held its fifth annual meeting in Witherspoon Hall, Philadelphia, on Wednesday evening, April 14th. The topic for discussion was "The Employment and Compensation of Prisoners." Hon. Robert Ralston, Judge of Common Pleas Court No. 5, and President of the American Institute, presided at the meeting.

The commission appointed by the governor to consider provisions for the employment and compensation of all inmates of penal institutions, recommends the employment and compensation of all prisoners; the adoption of the State-use system; the creation of a central board charged with the production and sale of the goods; the abolition of county jails, and the formation of six state industrial farms. Bills drafted by the commission, containing these recommendations, are now pending in both branches of the legislature.

National Conference of Charities and Correction.

The forty-second National Conference of Charities and Correction will meet at Baltimore, Maryland, May 12–19, 1915, with headquarters at the Hotel Belvedere. The conference consists of nine committees, each concerned with a distinct social or charitable problem, as follows,—Children, Corrections, Education for Social Work, the Family and the Community, Health, Public and Private Charities, Social Hygiene, Social Legislation, and State Care of the Insane, Feebleminded and Epileptics. Those interested may address the National Conference, 315 Plymouth Court, Chicago, Illinois.

American Academy of Political and Social Science.

The nineteenth annual meeting of the American Academy of Political and Social Science will be held on Friday and Saturday, April 30 and May 1, 1915, for the discussion of "America's Interests as affected by the European War." The four morning and afternoon sessions will be held in the auditorium of the Hotel Walton, the two evening sessions in Witherspoon Hall. The gatherings will be addressed by a notable array of persons prominent in American affairs, national, municipal, social, and academic. Official delegates appointed by the governors of the several states of the union will attend, as well as delegations of national civic and trade organizations and peace societies. The secretary of the American Academy is Prof. J. P. Lichtenberger, of the University of Pennsylvania, to whom inquiries may be addressed.

A New Series of Monographs on Criminal Science.

The Journal of Criminal Law and Criminology is entering upon the publication of a series of monograph supplements which will be known as Criminal Science Monographs. The first monograph is now in the press and will appear early next fall under the title "Pathological Swindling and Lying." Dr. William Healy, of Chicago, is the author. The volume will approximate two hundred pages. Each number in this series will be attractively bound in cloth, and will come from the press of Little, Brown and Co., Boston, Mass. Persons who have manuscripts in hand or in preparation, which they wish to have considered for publication in this series should communicate with Professor Robert H. Gault, Northwestern University, Evanston, Illinois.

National Effort to Improve Teaching on Tuberculosis.

For the purpose of securing more co-operation from physicians and nurses in the anti-tuberculosis campaign, The National Association for the Study and Prevention of Tuberculosis has inaugurated a movement to bring the importance of this subject to the attention of these two groups, according to an announcement made from headquarters today.

Among the first things which the Association is trying to do is to induce the medical colleges and schools of nursing to give more instruction, particularly of a clinical nature, on tuberculosis. An effort will be made also to reach the individual practitioners and nurses by special booklets prepared for this purpose. The clinical and other facilities of the various organizations affiliated with the National Association will as far as possible be made available for the widest possible use in training doctors and nurses in tuberculosis work.

"The object of this campaign," says Dr. Charles J. Hatfield, Executive Secretary of the National Association, in making the announcement, "is primarily to secure more accurate and earlier diagnosis of tuberculosis on the part of physicians, and to show nurses the great opportunities of service in the home care of consumptives. We shall also be able to put the average family physician in touch with the best methods of treating tuberculosis and with the most recent literature on that subject, thereby affording to the general public increased protection from this disease. Practically all of the medical colleges and schools of nursing of the country have expressed their approval of our plan and have offered to co-operate with us. While the medical profession generally has unselfishly assisted the nation-wide campaign against this disease, we feel because of its prevalence, tuberculosis should be given special attention by medical students and practicing physicians everywhere. No other single disease demands so much time and attention from the general practitioner in medicine. We shall try to make it easy for any doctor or nurse to acquire a specialized knowledge of tuberculosis."

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THE Psychological Clinic

For the normal development of every child

PSYCHOLOGY HYGIENE EDUCATION

Editor: LIGHTNER WITMER, Ph. D., University of Pennsylvania

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VOL. IX, NO. 8 JANUARY 15, 1916

A POSSIBLE RESTORATION CASE.

BY GERTHA WILLIAMS, A.B.,

Moore Fellow in Psychology, University of Pennsylvania.

For several years the Psychological Clinic of the University of Pennsylvania has been interested in the study of restoration cases. By a restoration case is meant a child who is socially incompetent because of deficiency on the ability or on the conformity scale, but who can be restored to plenary competency by some kind of special treatment. A child's pedagogical grading has been taken tentatively as the measure of his social competency. He is socially incompetent if he is pedagogically retarded or if he does not conform to the standards of conduct for children of his age. As the measure of pedagogical retardation, I have taken the relation between a child's chronological age and his grade in school, assuming that a child of seven should be in the first grade, a child of eight in the second grade, and so on. A child who is pedagogically retarded is a restoration case if he can be restored to the grade to which he belongs according to his chronological age. In addition he must conform to the standards of conduct for children of that grade.

In the summer of 1915, from the records of children examined at the Psychological Clinic fifteen children were selected who appeared from the examination to be restoration cases. These fifteen children were placed in an observation class conducted by the Psychology Department for the six weeks of the summer session, and were given instruction under two teachers who had been especially trained. Besides the academic work the children had training in handwork, including bench work. They had physical exercises and folk dancing. They were served a hot lunch at noon. They had outdoor games and trips around the University grounds. If a child needed medical attention, he was given it at the University Hospital. The children were under constant observation for the six weeks to determine whether they really were restoration cases.

This is a study of Bertha B, one of these fifteen cases. In May, 1913, she was first brought to the Psychological Clinic because of

TABLE I

	Grade					Total
	1	2	3	4	5	
8 year olds..........	5	27	47	9	2	90
10 year olds..........	2	6	9	39	3	59

Each pupil was tested in the presence of the experimenter alone. Every effort was made to keep the child from becoming confused or disturbed by outside influences. When he first came to the experimenter, he found the blocks under the inverted form-board, on the top of a small table in a well lighted place. The child was told to place the blocks into the form-board as quickly as possible. The time used was accurately recorded. As soon as he had completed the first trial, the blocks were at once removed from the form-board, and the form of solution was recorded. It was possible to put the blocks into the form-board in eight different ways. Each of these methods was designated by a number and is called a form of solution. After the first successful trial, the same procedure was repeated. This was continued until it was apparent that the child had mastered the problem. No more than five trials were given any individual, and all were given at one period. The child remained standing during the whole experiment. A record of the age and grade of each subject was kept. A particular number was assigned, as stated above, to each of the eight possible solutions and the record of the forms of solution used was thus easily kept.

Table II shows the distribution of the solutions for eight-year-olds according to grade, and the time used for each trial.

Table II reads:—In grade 1, one pupil completed the first trial in from 16 to 30 seconds; two in grade 2 in from 16 to 30 seconds, etc. The remainder of the table gives the distribution for the successive trials. At the foot of each distribution table is the median for the time required for the solution in each grade and for the combined group.

The medians for the first trial show no correlation between ability to solve the form-board quickly and school progress. However, the medians for the other trials do show a correlation, that is to say, after the first trial, there is a definite correlation between school progress and ability to solve this form-board quickly.

There is a marked falling off in the median time required by the entire group of eight-year-olds for the second solution. The median of the whole group for the first trial was 2:20 minutes, while for the second it was only 22 seconds. Apparently the pupils solved

TABLE II.—EIGHT-YEAR-OLDS

First Trial

Time in Seconds and Minutes	Grade (School)					
	1	2	3	4	5	Total
1–15	..	..	..	1	..	1
16–30	1	2	5	1	..	9
31–45	..	1	3	..	..	4
46–60	..	1	2	..	..	3
1:01–1:15	..	1	..	1	1	3
1:16–1:30	1	1	4	..	..	6
1:31–1:45	..	2	3	1	1	7
1:46–2:00	1	2	2	1	..	6
2:01–2:30	..	4	3	2	..	9
2:30–3:00	..	3	6	..	..	9
3:01–3:30	..	3	7	..	..	10
3:31–4:00	..	2	3	..	..	5
4–6	1	3	7	2	..	13
6–8	1	1	2	..	..	4
8–10	..	1	..	..	..	1
Totals	5	27	47	9	2	90
Median time	1:53	2:30	2:40	1:53	?	2:20
Lower quartile	....	....	....	....	?	3:40

Second Trial

Time in Seconds and Minutes	1	2	3	4	5	Total
1–10	..	6	16	1	1	24
11–20	..	8	16	4	1	29
21–30	1	2	4	1	..	8
31–40	..	..	1	1	..	2
41–50	2	2	1	..	..	5
51–60	..	1	1	1	..	3
1:01–1:30	2	4	3	1	..	10
1:31–2:00	..	1	1	..	..	2
2:01–2:30	..	..	..	..	..	..
2:31–3:00	..	2	..	..	..	2
3:01–4:00	..	1	3	..	..	4
4:00–5:00	..	..	1	..	..	1
Totals	5	27	47	9	2	90
Median time	:50	:20	:15	:17	?	:22

Third Trial

Time in Seconds and Minutes	1	2	3	4	5	Total
1–10	2	12	31	5	1	51
11–20	2	10	10	2	1	25
21–30	..	1	3	..	..	4
31–45	..	..	1	..	..	1
46–60	1	2	..	1	..	4
1:01–1:30	..	..	..	..	..	..
1:30–2:00	..	1	1	1	..	3
2:00–2:30	..	1	..	..	..	1
2:30–3:00	..	..	1	..	..	1
Totals	5	27	47	9	2	90
Median time	:13	:12	:08	:08	?	:09

Fourth Trial

Time in Seconds and Minutes	1	2	3	4	5	Total
1–10	1	4	9	4	..	18
11–22	3	3	2	2	..	10
21–40	1	5	1	..	..	7
41–60	..	..	1	..	..	1
1:01–2:00	..	..	..	..	..	..
2:01–3:00	..	1	..	..	..	1
3:01–4:00	..	..	..	..	..	..
Totals	5	13	13	6	..	37
Median time	:15	:20	:07	:07	..	:11

Fifth Trial

Time in Seconds and Minutes	1	2	3	4	5	Total
1–10	..	3	4	..	..	7
11–20	..	2	..	2	..	4
21–40	..	..	..	1	..	1
41–60	..	..	..	..	..	..
1:01–2:00	..	..	1	..	..	1
Totals	..	5	5	3	..	13

TABLE III.—TEN-YEAR-OLDS

First Trial

Time in Seconds and Minutes	Grade (School)					
	2	3	4	5	6	Total
1–15	..	1	..	6	..	7
16–30	..	..	..	3	1	4
31–45	..	..	2	2	2	6
46–60	..	..	2	7	..	9
1:01–1:15	1	1	..	3	..	5
1:16–1:30	..	..	..	3	..	3
1:31–1:45	..	1	1	2	..	4
1:46–2:00	..	1	2	2	..	5
2:01–2:30	1	1	..	2	..	4
2:31–3:00	..	..	1	3	..	4
3:01–3:30	..	1	..	2	..	3
3:31–4:00	..	..	..	2	..	2
Over 4 minutes	..	..	1	2	..	3
Totals	2	6	9	39	3	59
Median time	?	1:30	1:30	1:05	?	1:09
Lower quartile	....	....	....	....	....	2:15
Second Trial						
0–10	..	1	1	14	1	17
11–20	..	..	6	15	1	22
21–30	1	2	2	7	..	12
31–40	..	3	..	..	1	4
41–50	..	..	..	1	..	1
51–60	..	..	..	1	..	1
1:01–1:30	1	..	..	..	..	1
1:31–2:00	..	..	..	1	..	1
Totals	2	6	9	39	3	59
Median time	?	:31	16:06	:14	:15	15:6
Third Trial						
0–10	1	3	6	30	3	43
11–20	1	3	1	7	..	12
21–30	..	..	1	2	..	3
31–40	..	..	..	..	..	..
41–50	..	..	..	..	..	..
51–60	..	..	..	..	..	..
1:01–1:30	..	..	..	..	..	.
1:31–2:00	..	..	..	..	..	..
2:01–2:30	..	..	1	..	..	1
Totals	2	6	9	39	3	59
Median time	?	:11	:08	:06	:06	:07
Fourth Trial						
0–10	1	2	2	5	..	10
11–20	..	1	..	2	..	3
Totals	1	3	2	7	..	13*
Median time	?	?	?	?	..	:07

* Too few cases to justify conclusions.

the combination on the first trial largely by the trial and error method and were aided by their memory of the first solution in the successive trials. To the experimenter it was plain that in many cases there was a conscious effort made by the pupils to recall the form used in the preceding successful solution, with the result that often the identical steps used in that trial were repeated. Sometimes in the succeeding trials the trial and error method continued to be used, as can be seen from table II, in the amount of time required for solution. Table III shows the same distribution by grade and time used in the case of the ten-year-old group.

Table III is to be read in the same way as table II. There is in this group a direct correlation between school progress and success in completing the test quickly, although due weight must be given to the small numbers in the various grades. The median time for the combined group in the first trial was 1:09 minutes, while that of the eight-year-old group was 2:20 minutes.

Below are the medians for the successive trials by both groups.

TABLE IV

Trial	1	2	3	4	5
Eight-year-olds..............	2:20	:22	:09	:11	?
Ten-year-olds..............	1:09	:15	:07	:07	?

The median time for each trial is less for the ten-year-old group than for the eight-year-olds; however, in the third trial they are approximately equal. The lower quartile for the ten-year-olds in the first trial is 2:15 minutes. Therefore it may be said that three-fourths of the ten-year-old group completed the first successful trial more quickly than one-half the eight-year-olds. Stated in another way, one-half of the eight-year-olds completed the test more quickly than one-quarter of the ten-year-olds. This wide overlapping raises the question, to which age is the test best suited? It can evidently be used for both, with a different time limit for each age. The lower quartile of the eight-year-old group is 3:40 minutes. Assuming that this should give the basis for a standard of the time to be allowed on the first trial, 3:40 minutes would be the standard for eight-year-olds and 2:15 minutes for ten-year-olds. In view of this conclusion it may be said that the time allowed by the Bureau of Immigration is very fair to the immigrant, and would hardly be considered a highly selective device.

An analysis of the forms used and of the changes made in solving the problem in successive trials was also undertaken. The purpose of this was to discover the predominance, if any, of a particular form and in a rough way to determine the part memory played in the successive solutions.

Table V gives the analysis of the form used by the eight-year-olds.

TABLE V—EIGHT-YEAR-OLD GROUP
Analysis of Form used

Form	1	2	3	4	5	6	7	8	Total
First one used	12	16	12	8	17	5	9	11	90
No change made	6	11	6	7	11	5	4	9	59
One change	4	..	3	..	4	..	1	2	14
Two changes	2	4	2	1	1	..	..	..	10
Three changes	..	1	..	..	1	..	4	..	6
Four changes	..	..	1	..	..	..	..	..	1

This table is read as follows: The first line gives the form used on the first trial. It reads: 12 pupils used form 1 on the first trial; 16 used form 2, etc. Although there are two modal forms, namely 2 and 5, it would appear that, with a larger number of cases, there would not be a predominance of any particular form.

The next line in table V gives the number of changes in the successive trials. Of the ninety cases, fifty-nine made no change in the form used, but used the form of the first successful solution on all succeeding trials. A change was recorded when a new form was used; for example, if form 1 was used in the first trial and form 2 in the rest of the trials, one change was recorded; if form 1 was used in trial 1, form 2 in the second, and form 1 in the remaining, two changes were counted.

TABLE VI—TEN-YEAR-OLD GROUP
Analysis of Form used

Form	1	2	3	4	5	6	7	8	Total
First form used	7	6	3	14	6	5	9	9	..
Changes made in successive trials:									
No change	5	5	2	8	1	3	4	8	36
One change	2	1	1	4	1	2	5	1	17
Two changes	..	..	..	1	3	..	..	..	4
Three changes	..	..	..	1	1	..	..	..	2

Table VI gives the same analysis for the ten-year-old group. Again it would appear that if a great number of cases were studied there would be no predominant form. As was the case with the eight-year-old group a large number made no change in the form used. Sixty-four (64) per cent of the eight-year-olds and 61 per cent of the ten-year-olds made no change. It is apparent that memory enters clearly into the solution of the successive trials, and that it is as much a factor in the ability of the younger group as in that of the older. This is significant, as the pupils were not told at the time of the experiment that they were to have more than one trial. The recall was therefore spontaneous, as there was no opportunity given for memorizing the form used on the first successful trial.

The greatest difficulty in completing the test and the greatest number of changes were found with very nervous children, and with those who were afflicted with some ailment, such as adenoids, near-sightedness, etc. These cases stood out so strongly that they could at once be detected by the experimenter. Apathy could be easily detected, as the indifferent attitude of the apathetic child could be seen in the absent-minded way in which he handled the blocks. The greatest difficulty seemed to be found in the attempts to fit in the two smallest blocks, even after the other blocks had been placed in the proper position.

TABLE VII—EIGHT-YEAR-OLD GROUP
Occurrence of each Form

Form	1	2	3	4	5	6	7	8
Used once	6	5	7	4	4	3	5	6
Used twice	5	2	1	..	2	1	1	1
Used three times	8	9	8	9	13	5	5	9
Used four times	1	7	..	..	..	1	1	2
Used five times	..	..	..	..	..	..	1	..

This table is to be read: Of all the pupils, form 1 was used only once out of all the successful trials by 6 pupils; was used twice by a pupil in 5 cases; 3 times by a pupil in 8 cases, etc.

TABLE VIII—TEN-YEAR-OLD GROUP
Occurrence of each Form

Form	1	2	3	4	5	6	7	8
Occurred or used once	..	6	4	5	5	5	4	1
Used twice	4	1	1	2	..	2	2	5
Used three times	5	5	2	8	1	6	3	9
Used four times	1	1	..	..	..	..	..	1

This table is to be read: In all the cases, form 1 was used twice out of 3 or 4 trials by 4 pupils; used 3 times by 5 pupils, etc.

Tables VII and VIII show how often each form was used throughout the test. Table VII reads: 6 pupils used form 1 once; 5 used it twice; 8 used it three times, etc. Table VIII reads the same way. They are simply a further analysis of tables V and VI.

It is probable that no particular form would predominate if enough cases were studied. If one form stood out in a large number of cases studied, the matter might be worthy of further study and experimentation.

In order to discover the relation between the ability to solve the test quickly and ordinary school ability, records of the Courtis tests were examined. As speed is the factor which enters into the correlation, the total number of problems attempted by each pupil in the four processes tested by the Courtis tests was obtained,—the results for the test of May 1915 being used. It was possible to obtain the totals of only forty of the ten-year-olds, and as only nine of the eight-year-olds took the test their results were discarded.

The total number of problems attempted by these pupils ranges as follows:

TABLE IX

Attempts	Cases
Less than 15	2
15–20	5
21–25	6
26–30	11
31–35	5
36–40	6
41–45	2
46–50	2
51	1
	40

The median number of attempts was 28.7. These results were correlated with the ability to solve the board quickly, and a Pearson coefficient of .0025 was found. This coefficient shows that there was no correlation between these two factors. It shows that probably the Fernald form-board test is too easy a test for the ten-year-old children. But, as it has been seen that one-fourth of the eight-year-old group can solve the problem of the form-board more quickly than one-half the ten-year-olds, it is probable that this test has little significance and is of little value when used alone. The writer feels that it would be of little value to an inexperienced experimenter, but for a trained psychologist the method of attack of the pupil upon the solving of the form-board would reveal many things. The ability of the child to plan or to recall his previous attempts should certainly be an index to his mentality. An indifferent or nervous attitude on the part of the subject would put the trained observer on the look-out for any irregularities or peculiarities in the mental make-up of the person being tested. It would seem that this form-board would be valuable as one of a series of tests. It should not be used alone as a measure of mentality; but the inability to complete the test satisfactorily within the time allotted should place the tester on his guard.

NOTE.—After our study had been made and this report written our attention was called to a somewhat similar study published in *Eugenics and Social Welfare Bulletin No. V*, by the New York State Board of Charities. This report is mainly a study of reaction by mental age. Where chronological age averages are given they are strikingly like our own medians for 8 and 10 year olds.

AN ORGANIZED MENTAL SURVEY IN PHILADELPHIA SPECIAL CLASSES

By Norbert J. Melville, M.A.,

Psychological Laboratory, Philadelphia School of Pedagogy.

Early in 1915 the Philadelphia School of Pedagogy in co-operation with the Division of Medical Inspection and the Department of Instruction of the Public Schools organized a system of psychological testing of the pupils in the special classes. Although the public schools have had the advantage of the active co-operation of the Psychological Clinic of the University of Pennsylvania, it has been found impossible heretofore to arrange for a detailed clinical examination except for a comparatively small number of the 2700 pupils enrolled in the special classes, to say nothing of the 9000 pupils enrolled in the regular grades who are from three to six years over age for grade.

Consequently it seemed desirable that some system should be organized by which a certain number of standardized mental tests should be applied individually to as many of the pupils as could be reached during the year. In this way it would be possible within two or three years to have on record a tentative mental index of all the pupils in the special classes as well as of such backward and disciplinary pupils in the regular grades as could be reached. It was thought that such a tentative mental index, provided it was the result of standardized procedure, would serve as a first aid in psychological diagnosis, and would bring to light those cases that are most in need of thorough clinical examination. Moreover it was believed that these results, when carefully analyzed and interpreted, would be helpful along with the school and home records in determining provisional pedagogical treatment until a complete medical and psychological examination of the case could be made.

At the time some forty men were just completing a laboratory course in mental testing with special reference to the use of standardized series of tests. No student had been admitted to this course who had not completed in a satisfactory manner the fundamental courses in general and experimental psychology. Parallel with the course in mental testing, a course in child study was required. Each man was provided with the materials necessary for giving the Binet tests, some of the Knox tests, and certain tests of ability in reading and arithmetic. All such material was carefully inspected from time to time.

A circular letter was sent out by Dr. Oliver P. Cornman, Associate Superintendent having charge of the special classes, to all principals having such classes in their schools. The letter stated the purpose of the testing and requested those principals who wished to co-operate, to indicate whether or not rooms would be available for the work. With the exception of two or three schools where the conditions were not favorable, the principals expressed a willingness to have such tests conducted in their schools and gave assurance that accommodations would be provided so that the testing could go on without interruption. With the cooperation of Dr. Francis B. Brandt, Head of the School of Pedagogy, laboratory extension work was organized as part of the advanced work in educational psychology.[1] A roster was arranged by which the students could be present one afternoon a week in the schools to which they had been assigned for the testing.

In order to insure the greatest possible standardization of procedure the following measures were adopted. The recommendations of the informal conference on mental testing at Buffalo were carefully studied and interpreted. Regarding the many questions of Binet procedure not covered by these recommendations, an effort was made by the writer to discover in what details his own methods agreed or disagreed with those of other clinical examiners. These efforts resulted in a tentative standardization of the details of Binet procedure, which has been tried out during the past year in over one thousand cases. Pinter's standardization was followed in giving the Knox cube tests. To secure uniformity in the general procedure of mental testing, emphasis was laid on such matters as (1) setting the pupil at ease, (2) constant encouragement to effort, (3) application of definite rules in the matter of second chances, (4) completeness and carefulness in recording all responses for the purpose of later verification and study, (5) the reporting of any factors which might affect the results, (6) attention to the mechanics of testing, (7) consideration of such questions of school hygiene and administration as are related to the work of visiting examiners. In order to perfect the mechanics of testing and recording, special record blanks known as forms 43 and 44 of the Philadelphia Public Schools were prepared. These forms will be described in a later article on our proposed standardization.

Arrangements are being made to translate our proposed uniform method into several foreign languages so that foreign born pupils can be tested in their native tongue.

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[1] *See* Am. Psych. Assoc., Report on Academic Status of Psychology, Dec., 1915.

During the first part of the extension work the students retested such pupils in the School of Practice as had already been carefully examined. The practice-testing was done in the presence of the writer so that he could assist and render such immediate and later criticism as was necessary in training these student assistants. This practice work was supplemented by a series of carefully planned written examinations on questions of standard procedure. The student-examiners were then given a series of lectures on their relation to the administration of the schools to which they would be assigned. Such questions as their obligations to the supervising principal, their duties in times of fire drill, the detention of pupils after school in order to complete examinations, the desirability of minimizing the interruptions of school routine, and other similar topics were considered. The student-assistants were instructed never to attempt an evaluation of results except in laboratory conferences under the direction of the writer, who made the final interpretation of results.

The student-assistants reported to the principals who assigned them rooms where the individual examinations could be made under satisfactory conditions. The examiner was held responsible for the pupil from the time of leaving to time of returning to the class; and following the regulation of the Division of Medical Inspection, it was provided that the testing of a girl pupil should always be done in the presence of a witness.

The results of all tests were brought to the psychological laboratory and there carefully evaluated during the term. At the end of the term reports were sent to each school, to the Division of Medical Inspection, and the Department of Instruction. During the spring term of 1915 three hundred and forty-two pupils were examined in this way; during the fall term of 1915 five hundred and twenty more, making a total of eight hundred and sixty-two tested during the year. In addition to these eight hundred and sixty-two examinations over one hundred and fifty re-examinations were given. The following table and chart[1] show the results of the Binet tests for the first eight hundred and fifty pupils examined. The results obtained with the Knox tests will be reported in another article on the development of a supplementary scale of performance tests.

In order that the total Binet age might not obscure certain important facts concerning the pupils tested, they have been classified in growth periods[2] according to their ability to pass four out of

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[1] This chart was prepared for the Special Class section of the exhibit of the Committee on Feebleminded of the Public Charities Assn. of Pa.

[2] *cf.* Ellis, F. W., Report of Mental Examinations at Neurological Inst., N. Y.: 5th and 6th Ann. Rept. of N. Y. Probation and Protective Assn., 1913, 1914.

850 SPECIAL CLASS PUPILS CLASSIFIED BY MENTAL LEVELS AND AGE DIFFERENCES ACCORDING TO THE BINET SCALE (FINAL REVISION).

Summary According to Mental Levels		Summary According to Age Differences			
	Total	Group A −4 or more	Group B −1 to −3.9	Group C less than ±1	Group D +1 or more
Level of Early Infancy........	20	18	2	..	..
Level of Later Infancy........	112	51	59	2	..
Level of Early Childhood......	563	160	337	63	3
Level of Later Childhood......	139	35	82	20	2
Level of Adolescence or higher.	16	1	10	5	..
Total Examined..........	850	265	490	90	5

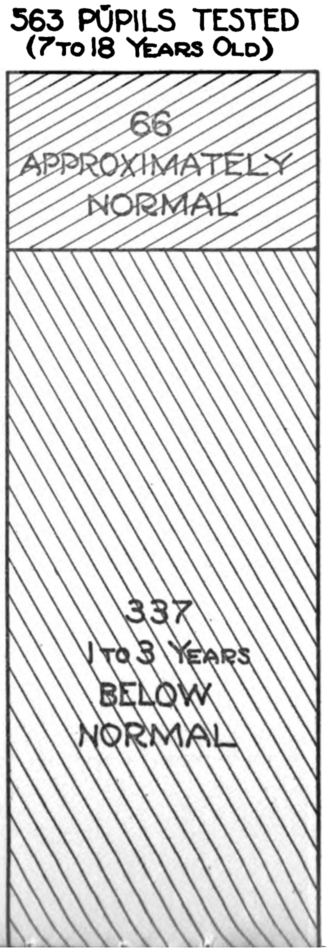
five of the tests for III, VI, IX, or XII years, as shown in the chart. The pupil who fails to pass the III year tests is classified at the level of early infancy in his intellectual development through not necessarily in his emotional or volitional development. A pupil who passes III but fails on the VI year tests is classified at the level of later infancy, etc. This method of classification (1) reveals the fact that certain highly diagnostic tests, *e. g.* the definition tests, have not been passed and (2) suggests one form of school grading.

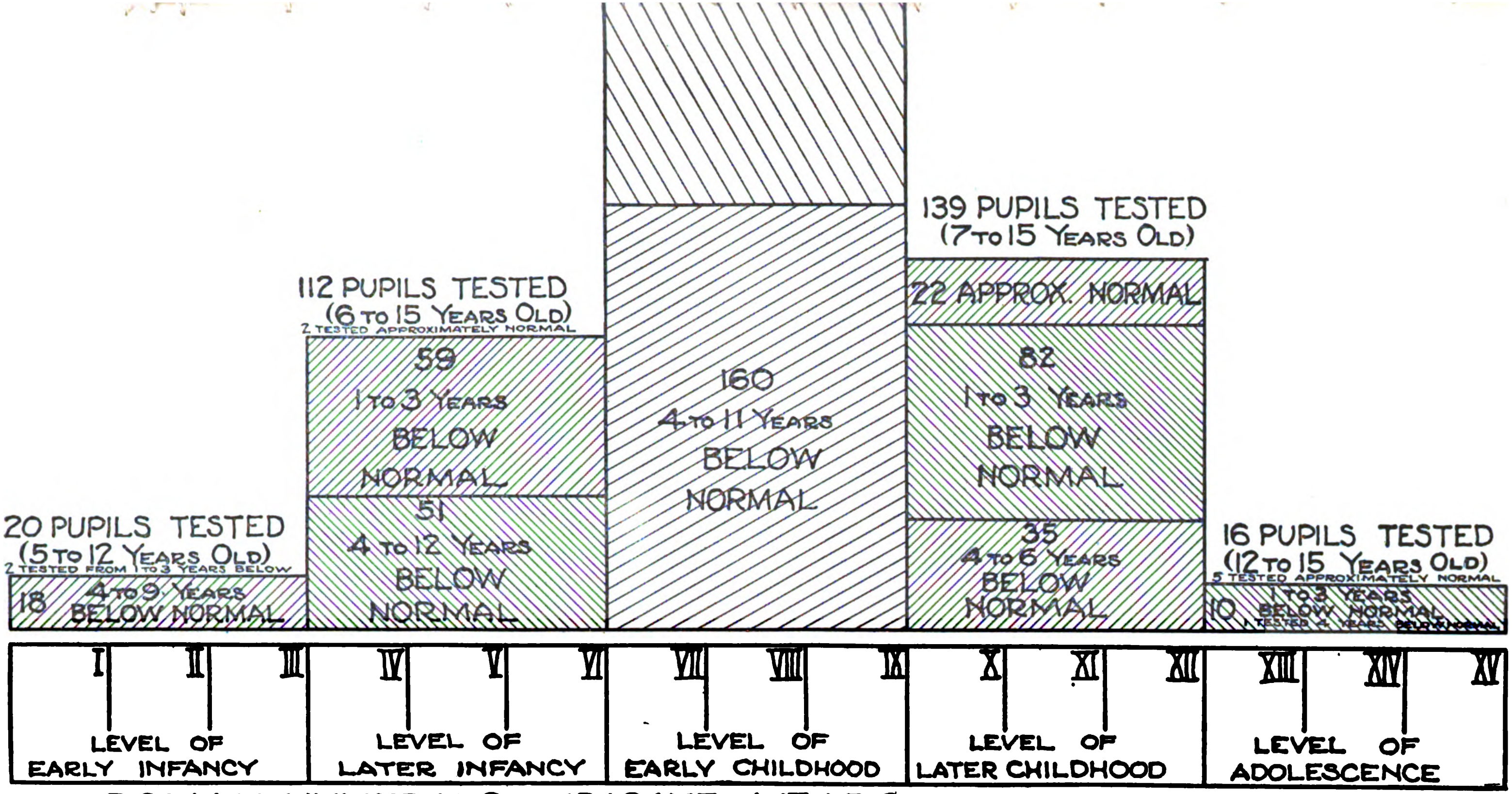
As shown in the table, twenty, or 2 per cent of the pupils appeared to be at the level of early infancy *i.e.* they failed to show the intelligence of normal three-year-old children. All of the twenty should be given a thorough clinical examination with a view to the proper disposal of these cases for whom it would seem impossible to make adequate provision in the public schools.

One hundred and twelve pupils, or 13 per cent appeared to be at the level of later infancy *i.e.* they failed to show the intelligence of a six-year-old child. Further examinations will probably show that comparatively few of these pupils can be adequately provided for in the public schools.

Five hundred and sixty-three, or 63 per cent of the pupils tested at the level of early childhood *i.e.* they showed the intelligence of six-year-old children but not of nine-year-old children. One hundred and sixty of these, four or more years below age, call for special detailed examination particularly if developing signs of lawlessness. The remaining four hundred and three pupils, approximately fifty per cent of the total number examined, together with the one hundred and nineteen pupils of higher levels who are at age or less than four years retarded, represent the type of pupil for whom the state cannot at the present time hope to make institutional provision.

Of the one hundred and thirty-nine pupils tested at the level


563 PUPILS TESTED
(7 TO 18 YEARS OLD)
66
APPROXIMATELY
NORMAL
337
1 TO 3 YEARS
BELOW
NORMAL



ROMAN NUMERALS INDICATE YEARS OF MENTAL GROWTH
ACCORDING TO THE BINET — SIMON SCALE

850 Special Class Pupils classified by mental levels and age differences according to the Binet Scale (Final Revision).

of later childhood, thirty-five tested four or more years below age. According to some investigators this group would probably contain the cases most likely to become defective-delinquents. Such would be the pupils having a physical development corresponding to adolescense but a mental development corresponding only to the level of later childhood *i. e.* pre-adolescence.

The sixteen pupils who tested at the level of adolescence like the five pupils to be mentioned later in group D were usually of the disciplinary or ill balanced type. Together with disciplinary cases belonging in groups B and C many of these would be best provided for in probationary classes or in a parental school.

As already mentioned the pupils are grouped within each level according to the difference between their Binet age and their chronological age. Four groups are made on this basis, namely, Group A—pupils four or more years below normal according to the Binet scale, Group B—pupils from one to three years below normal, Group C—pupils having an age difference of less than plus or minus one, Group D—pupils one or more years above normal according to the Binet scale.

Although Binet and other psychologists suggest that a mental retardation of three years is indicative of serious mental deficiency, the writer has considered it best to include in Group A *i. e.* those most likely to prove feebleminded upon further examination, only such pupils as test four or more years below age—a mental retardation corresponding to more than one growth period. As shown in the table two hundred and sixty-five pupils or 31 per cent are included in Group A, fifty-five of the pupils in this group tested from seven to twelve years below age. Such cases call for further examination with a view to institutional care and treatment.

Group B contains all the pupils having age differences ranging from minus one to minus three and nine-tenths inclusive. The majority of these four hundred and ninety pupils or 57 per cent are found to be at the early childhood level and seem to constitute the main problem of special classes in our public schools.

Groups C and D,[1] containing ninety-five, or twelve per cent of the pupils, represent the most promising cases for possible restoration to regular grades when given thorough clinical examination and adequate treatment.

All the cases of re-examination thus far studied merely confirm the previous testing with the exception of two cases. One of these pupils is troubled with a serious speech defect and has shown a gain of 1.6 years within six months. The other pupil passed the tests of memory span and association in the higher years when first tested but failed to do so when retested six months later, thus lowering his Binet age by two years. This second record was accompanied by a note stating that the pupil was in poor health. An immediate effort will be made to have both these pupils given detailed psychological and medical examination. An analysis of these changes in Binet age upon retesting revealed the fact, however, that in neither case were the changes of such a nature as to alter the classification of these pupils. The retesting confirmed their original classification in mental levels and their grouping by age-difference. A further study of retesting is in progress.

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[1] These "approximately normal" pupils are the younger children at each level who have thus far failed in the regular grades.

Upon request from a school, the writer has analyzed the results of a given examination in conference with the examiner and has submitted a report based on the detailed analysis. Later conferences with the school authorities have confirmed the value of such reports. In certain instances another series of tests has been applied in our supplementary studies. In our practice school, each of the special class pupils was tested one hour per week for five successive weeks. This testing included experiments in learning the regular school subjects.

It is important to emphasize here that the results of this survey are based upon the Binet-Simon scale as revised by its authors in 1911. Unlike the earlier revisions still generally used in this country, Binet's final revision corrects for the most part the errors in mental ages X to XII inclusive, pointed out by Brigham[1] and by Thorndike.[2] Their criticisms, though published in 1914, do not refer to Binet's final revision of 1911, recommended by the Buffalo conference, but to an earlier form of the scale.

CONCLUSIONS.

The Binet-Simon and other scales administered under careful supervision provide a standard method of:

1. Selecting cases for detailed clinical examination.
2. Detecting eligibility of pupils for special classes or for institutional care.
3. Grouping pupils within the special class.
4. Investigating the causes of delinquency.
5. Registering data concerning the feebleminded.

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[1] *J. of Ed. Psychol.*, Vol. V, pp. 439–448.

[2] THE PSYCHOLOGICAL CLINIC, 1914, Vol. VIII, pp. 185–189.

THE SOCIAL ASPECT OF AN EXPERIMENT WITH RETARDED CHILDREN.

By Lillian M. Tobin,
Special Teacher of Retarded Children, Talcott School, Chicago, Illinois.

In all schools are found children who do not "fit in" with the regular work. They are unresponsive; cannot work in groups; are irritable or over-sensitive; will not play, rather brood in corners; are hostile to society. Sometimes they show a tendency to damage things or torment animals or their companions.

They are individualistic. Every command must be given separately to them. They will not listen unless directly addressed; and will not respond. The result is that either their undirected energy takes the form of mischief and they become incorrigible, or they shrink back into themselves and become apathetic, sitting in their places with no interest, but conscious of the indifference of their companions.

If such children are allowed to remain indefinitely in the regular grades, it will mean years of unsatisfactory work and annoyance for the teachers; years of handicapping for the pupils of average ability, and years of stunting physically and mentally for the retarded children themselves.

The fact that these children have heretofore made up from 12 to 30 per cent of our criminal class is a sufficient argument that something should be done to make them less anti-social. It is unquestionable that the establishment of special forms of instruction for these children is "not only a humanitarian duty but a social necessity."

Eight years ago in one of the Chicago schools a special room was organized for such pupils, with the writer in charge. The room was equipped with chairs and tables of different sizes; manual training benches and tools; looms; a piano; materials for handwork of different kinds; large space for free plays and games. Moreover the children were allowed the use of gymnasium, baths, garden space, etc.

The curriculum was arranged with the following underlying principles in mind:

1. To make the children strong, healthy, happy.
2. To develop a wider range of social activities.
3. To train them to a better adjustment to environment.

In short, to make them better social beings; to render them if possible capable of contributing to their own support and managing their own affairs.

The program was arranged as follows: three-fifths of the time was given to handwork and physical work; two-fifths of the time to academic work. The handwork included basketry, weaving, woodwork, sewing, crocheting, drawing, clay modeling, book-binding. The physical work consisted of free plays and games, corrective work, baths, gardening. Music included singing and rhythmic exercises of all kinds.

The academic work comprised numbers introduced through plays and games; language, reading and writing.

The child's relationship to the school is always emphasized. He is made to feel that he is not an isolated individual but a member of the school, with the same privileges and also the same responsibilities as the other members.

These children attend the song festivals with the others; use the gymnasium in their turn; have their captains to direct the ranks; their own ball teams; their own garden.

In December and June we have a display of handwork made during the year and the other children come to see it. This helps to develop self-respect, and also the feeling that the child is a part of the school.

The sense of individual responsibility is secured by joint work. The entire class helped to make some picture frames for the school; one sawed the moulding, others filed, still others stained and polished, so that each one had a hand in the work and each one felt a personal responsibility in its success. Again, all the boys worked together to make a large doll's bed, and the girls made the mattress, bed clothes, and doll clothes.

In the garden they made fertilizer to improve the poor soil, planted bushes, sowed seeds and cut the grass. Each one had his bush which he planted, but all were responsible for making our garden look as well as the other gardens. When our garden was in good shape, we helped in the gardens of others who had not so much time.

Holiday functions and other occasional incidental parties help to promote the social spirit. These children, when development begins, are strongly imitative and highly suggestible and these qualities have been used in influencing them. The discipline has been effected by depriving the offender of participation in the games and holiday functions. It has proved sufficient.

The following are some of the striking cases of social gain:

(a) A boy in school in the first grade for two years. He never spoke a word; would not walk across the room without being pushed; when outside he stood up against the building and hung his head. At one time he was recommended for exclusion. In the special room he failed to respond in any way at first. One day after school, when he was sure all the others had gone, he answered *yes* and *no* by nodding his head. A few days afterward he answered almost inaudibly, *yes* and *no* to questions. The next step was to get him to do this in the presence of the other children, which he did after a few days more. Next he ran and caught a ball when his "number" was called; then threw the ball ancd called someone else's number, etc., etc. After six months in the special room, he talked to the other children, played with them, ran errands, rang the school bell, and did some good handwork. He learned to read a few sentences and to write his name, in fact took part in all the activities of the room.

Every month or so he would have lapses into his old habits and refuse to respond for perhaps a day or two, and then would react again. It is five months now since he has lapsed, and he is improving in every way.

(b) A boy was brought by his mother and sister to be examined. He was large for his age, had no ability in reading or writing, and no experience in handwork. He had broken into a school building and was to be brought before the Juvenile Court. The parents did not want the case taken before the judge and it was recommended that he be tried in some branch of the public schools that would be likely to catch his interest and train him.

He was fourteen years old and pretty large, and had to begin to read in the primer. For the first few days he felt rather awkward, but later in one of our ball games, when he got the ball into the basket forty-eight out of fifty times, and still later in a competition with the sixth grade when none of them could approximate his score, he not only began to develop a feeling of self confidence, but was the acknowledged leader in the room. His improvement was rapid. He was undoubtedly a model pupil. He remained in the room with us only a year and a half, and in that time he completed the first, second, and third grade work besides doing some good handwork. Repeated letters were received from the parents expressing their gratification at the change in the boy. He received a labor certificate and his uncle took him into his office in the Board of Trade. The last I heard of him he was making good.

This was a striking case of social gain considering the fact that the boy was fourteen years of age when he came to us, and remained with us only a year and a half.

(c) A boy was considered too low a case for the public schools. The parents were at a loss what to do with him. He tormented them and hurt his little sister if left alone with her. He seemed to possess a number of cruel traits. At one time he was in an institution for feebleminded children.

After some private tutoring he developed better coordination and was admitted to the special center. He has been with us six months. He runs and plays with the others, has learned to use his hands and make things; is interested, attentive, and can write a little. The parents say he has an entirely different attitude at home. From being destructive his habits are becoming constructive. The sister is no longer afraid of him. They play together and occasionally have been left alone together with good results. The improvement seems slight from the school standpoint, but the parents are overjoyed. They live two miles from the school and the mother has to bring the boy to school in the morning, and the father calls for him in the afternoon, yet they are anxious to do it and in constant fear of his exclusion.

The avenues of approach and development in the handling of these retarded children are numerous. In the present article only one phase of the problem,—namely, the social phase,—has been considered.

The writer has kept a record of the history of the children who have left her division during the years 1907 to 1914, and the tables herewith submitted may be of interest at this time.

I.

	Boys	Girls	Total	Per Cent of Total
Number admitted	74	36	110	
Left to go to Parochial School	14	2	16	14.5
Transferred to other public schools	14	6	20	18.1
Died	1	1	2	1.8
Left city	3	1	4	3.6
Number actually treated	42	26	68	61.9

II.

	Boys	Girls	Total	Per Cent of Total
Number actually treated	42	26	68	
Excluded, for low mentality	11	7	18	26.5
Returned to grades and remained in school	7	6	13	19.1
Returned to grades and left soon after:				
(*a*) Working:				
delivery boy	2	0	2	
on truck	2	0	2	
can factory	0	1	1	
peddler	1	0	1	
piano factory	0	1	1	
candy factory	0	1	1	
(*b*) Staying at home	2	4	6	
(*c*) Transferred to other schools	2	0	2	
(*d*) Left city	1	0	1	
(*e*) No information	6	0	6	
Total	16	7	23	33.9
Returned to grade and failed to make good	3	0	3	4.4
Left special room for various reasons:				
(*a*) Staying at home	2	2	4	
(*b*) Working:				
office boy	1	0	1	
nurse girl	0	3	3	
(*c*) Working occasionally	2	0	2	
(*d*) Worked a while, then married	0	1	1	
Total	5	6	11	16.1

REVIEWS AND CRITICISM.

The Intellectual Status of Children who are Public Charges. By J. L. Stenquist, E. L. Thorndike, and M. R. Trabue. Archives of Psychology No. 33, September, 1915. New York: The Science Press.

This monograph belongs to the none too large class of scientific books which succeed in being thoroughly dry and compact, but not at all dull. "Two hundred and sixty-five children, including one hundred and eighty-three boys and eighty-two girls, were measured. They comprised about three-fourths of the children from 9 years 0 months to 16 years 0 months who were, at the time of the investigation, public charges in a certain county. The selection was random, except that none of the dependent children sent from the county to the state institution for the care of the feebleminded were included. . . . A comparison of the measurements of the children committed for delinquency with those committed for destitution shows no demonstrable difference either in the tests of abstract intellect or in the mechanical test."

The Stenquist test of mechanical ability, which is the first reported in this monograph, aims to get as far as possible "from the child's ability to read and to write and to deal with heard words. The general plan is to measure his ability to select the necessary parts and put them together properly to make certain things." The materials were contained in a shallow box with a partition across the middle. In the farther half of the box, as placed before the child, were seven mechanical models correctly put together and set up. In the nearer half were the pieces for constructing a similar set of models. Photographs show the perfect models, the intermediate grades of accomplishment, and how they are to be scored. Thirty minutes was the time allowed, and one extra credit was given for each minute saved by the child.

Mr. Stenquist obtained median scores for each year from six to sixteen, by testing 432 children in two New York City public schools. From these data he computed the "probable true central tendencies for these ages." From the corrected medians the standard scores for each year and fraction of a year were obtained, but he remarks, "The scores to fit ages below 6.5 and above 15.5 are frankly only estimates." The "construction age" of any child can be computed by finding the age in the table which corresponds in score with the score made by the child. "Where the same score appears for several ages, the midpoint was taken."

The second test given to the dependent children was the Trabue completion test, a series of fifty-six sentences with omitted words to be filled in. The directions were very clear, and in substance told the child to "put one word in each blank, so that the sentence will sound right and make good sense." It was observed that "if the child had not understood from the class explanation it was almost impossible to make him understand by individual help. The examiner always went about the room, however, to do what he could for such cases. . . . Thirty-five minutes from the time the children began work, all papers were collected. . . . Each child's paper was given a score for each of the fifty-six sentences, each sentence receiving a grade of 5 if perfectly completed, and 0 if not sensible at all. . . . If the sentence as completed by the child was only slightly imperfect, a grade of 4 was given it," and so on. "In an effort to make the grading consistent an objective scale of value was made out for each of the fifty-six sentences." Here Mr. Trabue adds a word of caution,—"One has to guard against depending too much on his mechanical device and failing to exercise his judgment at all. . . . After the sentences were graded, they were grouped for purposes of calculation into eight groups of seven sentences each. . . . Each group was treated as an independent unit in the record."

The standards of performance were obtained from tests given to 850 children in two public schools in New York, and graded as already described. The results indicated that "there is some relation between the ability which this test measures and the judgment of the school authorities who promote children from grade to grade." The median child is defined as "that child whose ability is central,—who has just as many above him in ability as he has below him. . . . In order to reduce the chance of errors . . . it seemed best to use the median of the scores made by those children who had made normal progress in school." Mr. Trabue presents a table of "median scores in each section of the completion test for each year-age group of ordinary children," and gives in another table the "ages corresponding to each degree of achievement in each section of the completion test." He illustrates the use of these tables to compute for any individual child his "median inferred mental age by completion test as a whole."

The Goddard revision of the Binet-Simon tests was the third series of tests used, and the procedure is described in full detail. "The standards of performance to be counted as satisfactory and the credit to be given for each test, as well as the form in which the test was presented, were those described by Dr. Goddard, except where study of the methods used by others and the examiner's own experience convinced him that modifications were desirable."

After filling in the preliminary data on the record sheet, the examiner began with the test of memory span for digits. "This test was chosen to be given first because it gives the quickest indication of the child's level of ability, it is easily understood by the child, it begins at a point where any of our children could do it successfully, and it gets the child into an attitude of attention which is very valuable." Next the memory test for sentences was given. Mr. Trabue, who did nearly all of the Binet testing with these dependent children, remarks, "The results from these two series of memory tests gave a good indication of where to begin with the other tests. . . . We grouped the tests according to their methods of application. . . . Each group was given separately, beginning at a point where . . . the memory test had given promise that he would be successful, and going from the easy to the more difficult until the child showed clearly that he was unable to do any that were more difficult. No child was given all the tests of any group, but each was given all those in any group between the point where he showed full ability to do anything easier and the point where he showed complete inability to go higher."

Dr. Thorndike had previously found that "the mental ages as calculated by the Binet-Goddard scheme are, after 8.6 years, too low for ordinary American children." The corrected Binet ages were presented by him in *The Psychological Clinic*, Vol. VIII, No. 7, and are given again in this monograph.

The fourth and final test was of ability to read certain passages and answer questions or perform acts based on them. The passages and questions were selected from those published in the *Teachers College Record* for September, 1914. This test is considered by the authors of the present monograph to be "in some measure a means of discriminating between constitutional dulness and lack of training. . . . The matter is not sure, for it is not absolutely certain that the abilities required by the Binet test are less dependent on home and school training than those required for intelligent reading." The method of giving and scoring the reading test is explained. "The standards defining the achievement of ordinary children in these reading tests were obtained from about 700 children tested in a public school on the upper east side of New York City." A table shows the frequency of the scores attained by these ordinary children, and another table rearranges these facts for convenient use in determining the "reading ages" from the gross scores.

In combining the results of all four tests and computing the retardation (or acceleration), the experimenter took the chronological age as "determined by the child's statement, corroborated or modified by the records of the institution or county wherever possible. . . . There is reason to believe that the semi-official age is often simply a record of age based on a previous statement by the child. There is also reason to believe that the semi-official record is often in gross error (as when a large boy in a high grade who says he is fourteen is recorded as only seven). Consequently when we put the mental status of each child in terms of 'underageness' we use as his chronological age the average of his own statement and the report of the institution or county records, or, if the two differ by three years or more, choose the one which best fits his bodily appearance and score in the tests. . . ."

They found, as might be expected, that "these dependent children as a group are much below ordinary children of corresponding ages in the sort of abilities tested by the Binet, completion, and reading tests. They differ of course among themselves. We find one child of much promise, forty-nine of nearly average ability or better, while forty-eight are four years or more behind and the remaining three-fifths are from half a year to four years behind. . . . In the mechanical test also the dependent children are notably inferior, though not so much so as in the more abstract abilities. . . . The increase in underageness as we go from lower to higher ages in the dependent children is greater than would be expected from the increasing range of individual differences in general." After enumerating several causes for this selection, the authors conclude, "From the point of view of social economy this excess-dulness of the older children means that being a public charge is more and more symptomatic of dulness, the older the child is. Probably the adults up to beyond the prime of life who are public charges would be found to be even duller than these children of fourteen to sixteen."

In a supplementary chapter on "Heredity versus environment as the cause of the low intellectual status of dependent children," the authors report measurements of nine pairs of siblings who have been in institutions for five years or more, and compare with them the measurements of nine other pairs of siblings who have been in institutions from one to three years. "It appears that, as far as our data go, equalizing opportunity, as by institutional life, for five years or more for children three to nine years at entrance upon it, does not reduce original likenesses within families and differences between families to any notable extent. This conclusion," they add, "should be tested with a larger group of children and also by repeated measurements of the same pairs of siblings. In connection with the experimental results when groups of individuals are given equal amounts of practise, however, and the facts for twins, the facts given here put the burden of proof upon those who attribute any great share in the resemblances found in siblings, under the same general conditions of life during the same decade in the same community, to their similarity in home training."

A. T.

NEWS AND COMMENT.

The Factor of Poverty in Sanitation.

The factor of poverty in sanitary problems was discussed in Washington, in November, 1915, by Surgeon General William C. Gorgas, whose success in cleaning up Havana and the Panama canal zone have brought him recognition as America's leading sanitarian. His audience was the Clinical Society of Surgeons, assembled in their twenty-fourth annual meeting. Dr. Gorgas said, in part:

"Such sanitary work as is necessary in the tropics is inexpensive, but measures directed against special disease are not the greatest good that can be accomplished by sanitation. Before these great results that we can all now see are possible for the sanitarian, we shall have to alleviate more or less the poverty at present existing in all civilized communities. Poverty is the greatest of all breeders of disease and the stone-wall against which every sanitarian must finally impinge.

"During the last ten years of my sanitary work I have thought much on this subject. Of what practical measure could the modern sanitarian avail himself to alleviate the poverty of that class of our population which most needs sanitation? It is evident that this poverty is principally due to low wages; that low wages in modern communities are principally due to the fact that there are many more men competing for work than there are jobs to divide among these men. To alleviate this poverty two methods are possible, either a measure directed toward decreasing the number of men competing for jobs, or, on the other hand measures directed toward increasing the number of jobs.

"The modern sanitarian can very easily decrease the number of men competing for jobs; if by next summer he should introduce infected stegomyia mosquitos at a dozen different places in the southern United States he could practically guarantee that when winter came we would have several million less persons competing for jobs in the United States than we have at present. This has been the method that man has been subject to for the last six or seven thousand years, but it does not appeal to me, nor, I believe, to yourselves. This method is at present being tried on a huge scale by means of the great war in

Europe. But I am sure that every sanitarian would much rather adopt measures looking toward the increase of jobs rather than, as we have done in the past, submit to measures that decrease the number of competitors for jobs.

"I recently heard one of the members of the Cabinet state that in the United States 55 per cent of the arable land, for one reason or another, is being held out of use. Now suppose in the United States we could put into effect some measure that would force this 55 per cent of our arable land into use. The effect at once would be to double the number of jobs. If the jobs were doubled in number wages would be doubly increased. The only way I can think of forcing this unused land into use is a tax on land values. I therefore urge for your consideration, as the most important sanitary measure that can be at present devised, a tax on land values."

The Relations of Instruction in Religion to Public Education.

This will be the topic for the first three days of the meeting in thirteenth annual convention of the Religious Education Association in Chicago, February 28, 29, March 1 and 2, 1916. The last day will be devoted to departmental conferences on religious training in colleges, churches and other institutions.

At this convention no time will be spent in popular mass meetings, but the whole period will be devoted to carefully planned conferences. The discussions will be based upon a series of investigations into the various experiments in correlated instruction, especially in the Gary plan, the Colorado and North Dakota plans and the different systems of parochial schools and of week-day religious instruction.

The association has no special plan to advocate; the conference will afford opportunity to study the present situation and the various solutions proposed. Some of the topics of discussion are:

> The Attitude of the Religious Communions concerning the relations of Church and State in Education.
>
> Upon what conditions can Churches of different denominations combine in giving Week-day Instruction?
>
> What are the reasons for asking the State to give school credits for Religious Instruction?
>
> To what extent are the Churches competent to undertake the Educational Task Involved?
>
> Why some Citizens believe that the plan endangers our Religious Liberties.
>
> What influence will the Week-day Instruction plan have on parochial schools?

Two sessions will be devoted to a study of Moral Conditions in High Schools.

All persons interested in week-day religious instruction are invited to the conference. The sessions will be held in the Congress Hotel. Programs may be obtained by writing to the Religious Education Association, 332 So. Michigan Ave., Chicago, Ill.

Vocational Training for Indians.

The Committee on course of study for the United States Indian Schools recently convened by the Commissioner of Indian Affairs, Cato Sells, after several weeks' work in conference at Washington has completed a course of study which will give to the Indians the best vocational training offered by any school system in the United States.

As these schools must train Indian youth of both sexes to assume the duties and responsibilities of self-support and citizenship, this course strongly emphasizes vocational training.

It is classified into three divisions. The first is the beginning stage, the second the finding stage, and the third the finishing stage. During the first and second periods the training in domestic and industrial activities centers around the conditions essential to the improvement and proper maintenance of the home and farm. The course outlined in the prevocational division is unique in the fact that in addition to the regular academic subjects boys are required to take practical courses in farming, gardening, dairying, farm carpentry, farm blacksmithing, farm engineering, farm masonry, farm painting and shoe and harness repairing, and all girls are required to take courses in home cooking, sewing, laundering, nursing, poultry raising and kitchen gardening.

This course not only prepares Indian youth for industrial efficiency but at the same time helps them to find the activities for which they are best adapted and to which they should apply themselves definitely during the vocational period, the character and amount of academic work being determined by its relative value and importance as a means of solving the problems of the farmer, mechanic, and housewife.

Non-essentials are eliminated. One-half of each day is given to industrial training and the other half to academic studies. All effort is directed toward training Indian boys and girls for efficient and useful lives under the conditions which they must meet after leaving school. Other objects to which this course directs special attention are health, motherhood and child-welfare, civics, community meetings, and extension work.

Making the Dictionary a Popular Book.

To popularize the dictionary among boys is the task which the official magazine of the Scout Movement, *Boys' Life*, has undertaken. That magazine has turned a study of the dictionary into a game, and called it "Scouting in the Dictionary." Forty-four prizes, valued at $100, will be given to winners. Appropriately these prizes include six dictionaries (the first a $30 and the second a $27 book) twenty story books from the library approved by the Library Commission of the movement, and eighteen subscriptions to the magazine.

The contest that is proposed is simply the forming of words out of the letters contained in the phrase "Boy Scouts of America." But with its stories about the dictionary *Boys' Life* is impelling boys to search the dictionary in this "game" and to abide by its definitions, and in this way is opening to them a new world of words, which will make for the enrichment of their ideas.

Teachers may be able to use this contest to quicken the interest of some of their classes. If so, the Boy Scouts' magazine will be very glad to cooperate with them. The address is 200 Fifth Avenue, New York.

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